FEEDSTUFFS

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

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California Feeders Eye Hog Outlook

By Special Correspondent

STOCKTON, CAL.—There's money to be made in hog production in California, and the potential is almost unlimited.

Some 300 or more livestock men, most of whom are not now raising hogs, were reassured of a growing demand several times by speakers addressing a day-long swine production meeting, the first of its kind ever held in California, in Stockton, July 30. The state now consumes the equivalent of six million hogs a year, and other western states use four million more. But California is currently producing only 335,000 head.

Climate Right

And the climate, both the natural and man-made, are right for increasing hog production, the farmers, coming from all over the states, were told. There is plenty of feed available, according to Tim D. Hoelle, livestock feed manager for the Pacific region of the Ralston Purina Co., Palo Alto—some two million tons of barley this year, as compared to under one million in 1958. Production of milo, oats and corn is also up, and it has been demonstrated successfully that barley-fed hogs are equally good meat animals as midwestern corn-fed hogs, Mr. Hoelle said.

The advantages to raisers of buying their swine feed from commercial feed mills are many, reported Robert

(Turn to HOG OUTLOOK, page 97)

USDA ENDS BUYING OF FROZEN EGGS

WASHINGTON—Government purchases of frozen eggs have ended, according to announcement from the U.S. Department of Agriculture. Bids were accepted last week on 650,325 lb. dried whole egg solids, the equivalent of approximately 65,032 cases of shell eggs. The department purchased 4,110,000 lb. frozen eggs, at a cost of $1,001,400, since it began buying frozen eggs June 18. A total of $9,382,300 has been expended on purchases of 8,321,850 lb. dried eggs since the beginning of the surplus removal program April 24.

Soybeans Dominate Commodity Interest

By JOHN CIPPERLY

Feedstuffs Washington Correspondent

WASHINGTON — Soybeans are dominating the interest in commodity markets, both within processing industry channels and speculative circles. They appear to offer about the only trading opportunity with any elbow room in agricultural commodity markets where there is any possible chance of major price movement.

There are those who look for major price advances in new crop soybeans and there are others who look at the soybean bull with a fishy eye and say, "If you assume profits on the upside of the new crop bean market, can you give assurance that there will be no sharp decline?"

In view of the eager interest in beans, not only as a speculation commodity but also in its prime importance to the feed industry, it seems urgent that available material be set forth at this time based on data at hand.

First, let it be said that broad conclusions appear to favor the market "bulls".

1. Acreage is down for the first time in recent history for the bean crop.

2. For the past year, bean disappearance, both at home and in export channels, has broken through old records and there is no reason to believe

(Turn to SOYBEANS, page 93)

USDA Reports Two Percent Larger Lamb Crop This Year

WASHINGTON—The 1959 lamb crop totaled 21,108,000 head, 2% larger than in 1958, and 10% above the 1948-57 average, according to the U.S. Department of Agriculture's crop reporting board.

The 13 western sheep states (11 western states, South Dakota and Texas) produced 3% more lambs in 1959 than in 1958, and 7% more than average. The lamb crop in the 35 native sheep states is only slightly larger than last year, but 15% above average. In Texas, where approximately 14% of the nation's lambs are produced, the 1959 crop is 10% above 1958, and 7% above average, according the crop reporting board.

The lamb crop percentage (number of lambs saved per 100 ewes, one year of age or older on farms and ranches Jan. 1) this year is 96, which is one point below last year, but five points above the average. The western states' lambing percentage at 91 is one point below last year, and the lambing percentage in the native sheep states at 106 is two points below last year. The Texas lambing percentage at 82 compares with 81 in 1958 and the average of 70.

The number of breeding ewes one year old and older on farms and ranches on Jan. 1, 1959, was 3% above 1958, while ewe lambs under one year old were 8% above Jan. 1, 1958.

The 1959 lamb crop in the 13 western states is 3% above 1958 and 7% above average. The number of breed-

(Turn to LAMBS, page 97)

AFMA Focuses More Attention on Feed Merchandising Plan

CHICAGO—The American Feed Manufacturers Assn. this week gave an extra "push" to its campaign to enlist additional voluntary support of the 1959 National Feed Merchandising Plan.

The plan, printed in booklet form, is being widely distributed among feed manufacturers by the AFMA. It described a program calling for the use of sound business principles when feeds are booked for future delivery.

I. S. Riggs, chairman of the AFMA board and vice president of Quaker Oats Co., states, "In the opinion of the AFMA Sales Executives Council and many others of us, we have reached the point where serious consideration is needed to again approach the problem of establishing a more conservative and businesslike basis for contracting feeds for future delivery."

The Feed Merchandising Plan was

(Turn to AFMA, page 97)

7% Chicken Crop Reduction Forecast

WASHINGTON—This year's farm chicken crop is expected to be 7% below last year's, according to a preliminary estimate of the U.S. Department of Agriculture. This is a dramatic reduction in view of the fact that on Feb. 1 of this year farmers reported that their intentions were to buy 1% fewer chicks in 1959 than they bought in 1958.

The number of chickens raised on farms during 1959 is estimated at 400,660,000, compared with 431,806,000 in 1958.

USDA reported that sharp decreases in the north central and north Atlantic regions more than offset increases in the west and south Atlantic regions. Decreases were 17% in the east north central region, 12% in the west north central and 11% in the north Atlantic. Increases were 3% in the West and 2% in the south Atlantic region. In the south central region the number of chickens raised is about the same as last year.

This preliminary estimate is based on reports as of June 1 obtained through the cooperation of rural mail carriers covering more than 155,000 farms in all parts of the nation and supplemented by later information from crop correspondents and reports from commercial hatcheries.

A 6% reduction was noted in egg-type chicks hatched January through June, compared with the same period last year. The 1959 total for this period was 462,917,000. The hatch for March was 6% above March last year, while the cumulative hatch January through March was 3% above the same period a year earlier. The April, May and June hatches were below the corresponding months of last year by 2%, 20% and 34% respectively.

Egg prices received by farmers were down sharply from a year earlier in March, April, May and June, which is the heavy hatching period for egg-type chicks. In April, egg prices av-

(Turn to CHICKEN CROP, page 97)

Jewell Firm Plans Larger Operations In Manufacturing

GAINESVILLE, GA.—The board of directors of J. D. Jewell, Inc., Gainesville, has announced a long-range program to concentrate on new processed foods in a "greatly expanded program of manufacturing."

The new program will entail requirements for basic raw material, chickens, in excess of the firm's present supply from its own sources, thus providing an even larger outlet for the poultry of northern Georgia processors, it was noted in a report from the firm. The company is the largest

Turn to JEWELL, page 97)

FEEDSTUFFS *Features This Week*

PRIVATE RESEARCH: An article concerning the results of more than 40 feeding and management tests conducted by a feed manufacturer starts on **page 30.**

AUTOMATION: Facilities of a new feed mill and egg plant in Virginia are described on **page 38.**

MILL IMPROVEMENT: How a Minnesota mill speeds service, improves efficiency and increases capacity is reported on page 54.

— REGULAR FEATURES —

Joe Brooks	20	Convention Calendar	78
Feed Service Bulletin Board	22	Putting Research to Work	86
Worth Looking Into	70	Feed Markets in Detail	94

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The regional circulation of this issue is concentrated in the southwestern states

Top of the Hopper

WITHIN A FEW WEEKS the national committee for trading by weight is expected to hold its first session to consider plans to convert from the bushel system of grain trading to the hundredweight system. The National Association of State Departments of Agriculture is acting as a "catalyst" in the effort, and a number of organizations, including the American Feed Manufacturers Assn., is represented on the broader committee which will be gathering shortly.

What steps may be taken to promote the change probably will be revealed after the initial committee meeting. The committee faces many opponents, particularly among the nation's grain exchanges. In the ranks of the opposition is Scale Journal, a monthly trade magazine, which recently editorialized: "It is just unthinkable to a grain man that the system that has stood the test of time for well over 100 years should suddenly be outlawed. There is no law against buying or selling grain by the hundredweight any more than there is a law against using the metric system in its handling.

"We doubt that even the most zealous reformers would openly advocate the outlawing of all weights and measures systems except the metric. Yet when we were asked to use the pages of the Scale Journal to help outlaw the bushel, we are told that the real objective was compulsory adoption of the metric system! What we could never quite get through our head was just where any change in the standard would fit into the problem of the weights and measures official securing more accurate weights and measures. It is a reform measure and outside the proper sphere of the weights and measures officials."

Americans, on the whole, are eating out more, and this is affecting the distribution pattern of an increasing portion of the nation's food supply. According to a recent government study, one fourth of the consumer's food dollar on the average is spent for food served in restaurants, hotels, schools and other away-from-home eating places.

ENCOURAGEMENT FOR OWNERS of smaller laying flocks on general farms, who are facing more competition from big, specialized operations, comes from two poultry experts. Dr. Edward Karpoff of the U.S. Department of Agriculture says that these smaller flocks will be managed under business-like conditions that closely approach the management practices of specialized poultry farms. He notes that the opportunity to share-cost items such as a truck or water supply means that additional expenses on account of chickens are less on general farms than on highly-specialized farms where poultry must carry the entire farm overhead.

Ralph Baker, Pennsylvania State agricultural economist, says that egg production will continue to be a sideline to over-all farm operations, but if these producers use family labor, good quality control practices and participate in a well-coordinated marketing program, they will be difficult to displace. (Referred to here are flocks of 1,000 to 5,000 on general midwestern farms.)

AN INCREASING TREND toward southern broiler contractors' making their own feed from the ground up has been pointed out recently by a number of feed men. Some contractors who formerly mixed feed manufacturers' concentrates and grains are now buying premixes and their own protein as well as carbohydrate ingredients and making their own feed. They claim significantly lower costs on the end product, and they say that, with the prolonged period of low broiler prices, more of the large feed manufacturers are

(Turn to TOP OF THE HOPPER, page 93)

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

Reports from around the country this week indicate that formula feed business has dropped off to a slower pace than the steady movement seen in recent weeks. Behind this slowup is the usual stronger pasture feeding, plus cuts in turkey and chick production and a weaker trend in hog feeding because of lower prices. It was apparent that, in general, mills plan to reduce production time to match the slower demand. Ingredient demand was off, too. Lower ingredient prices and weaker formula feed demand are expected to lead to price reductions by mixers. The wholesale feedstuffs price index dropped to 80.5 this week compared with 81.2 the week before and 90.7 the comparable period last week. The feed-grain index dropped 0.3 point to 70.3 this week as against 71.5 a year earlier. The hog-corn ratio slipped, too, and was at 10.8 this week, 11.1 last week and 17.1 the comparable week last year. (Ingredient prices in detail on pages 94-96.)

Northwest

That old summer slump fell upon Midwest formula feed manufacturers this week, and they reported that business was significantly slower than it has been. But the softness was nothing more than expected.

"It's the slowest we've seen it in quite a long time," said one representative of a firm that was ending July about 15% ahead of the volume for the same month last year. Others, too, reported that even though the month was ending on a slow note, this year's July, as a whole, was better than July of last year. One firm reported that it would wind up the month 17-25% above July of last year.

Hog, dairy and turkey feeds still account for the bulk of the business, but even these are off now with hog prices down, cows on pasture and turkey production slower.

Manufacturers expect to cut back production. One representative said his company, which has been running three shifts six and seven days a week, may cut back to two shifts or cut out Saturday work. Another mill, which has been operating with two 9-hour shifts five days a week plans to cut back to 8-hour shifts next week.

Ingredient demand, of course, has been slow, too, and formula feed prices may dip, but the cut is expected to be only slight.

Southwest

A combination of slumping egg and hog prices, plus unusually good grass for this time of year, undermined formula feed sales in the Southwest in the past week. Mills generally found business slow in virtually all lines, except the financed volume of turkey and broiler feeds.

The chief point of decline in sales volume was in hog feeds. Reports from dealers indicate that continued slipping in hog prices has now reached the point where farmers are not buying supplement, preferring to keep out-of-pocket expenses down where they can get by with green feed and grain on the farm. Also, some hogs are now moving to market, and this tends to reduce feed consumption, too.

Egg prices, which showed signs of revival recently, turned weak again, and this was no encouragement to layer house operators. This is normally a slow time of year for egg feeds and there is no improvement in sight.

Broiler prices in this area have stayed lower in July than expected and the summer price run-up appears unlikely to develop this season to any marked extent. Turkey feed volume is building up seasonally, and this is about the only bright spot in the current picture.

Good grass is general over the range country as well as in farm pastures in the high rainfall areas. This tends to hold down volume of dairy and cattle feed sales right now.

Running time fell off for mills of the Southwest. Some were able to hold up to about the same level as last week, but the average ran from 4 to 4½ days.

Prices were generally lower, averaging about $1 down, due to weakness in protein feeds. Millfeeds were the only items which showed much strength this week.

Northeast

Business was somewhat improved as the work week was extended to about 40 hours compared to an average of 36 hours last week. Egg mashes continued to lead sales, with growing feeds, turkey feed, dairy and broiler feeds following.

Egg prices held their own this week with receipts short to barely adequate for extra-large and large whites. Mediums and small eggs were ample with a slight surplus for mediums. Demand was moderate and improved in some quarters. The market was steady. Large white eggs sold at 47@52¢ doz., mostly 48@50¢.

Broiler prices were unchanged from a week ago.

Millfeed trading continued to be dull and the Buffalo price structure reflected nothing. As the local market drifted, the western market advanced.

Mixer business is the same as it has been for the last couple of weeks and is still in the summer doldrums.

Running time of the mills ranged from five to seven days.

Southeast

All feed business in the Southeast is reported to be on the slow side. Feed ingredient buyers continue to buy on an as-needed basis and are not inclined to book future shipments of their major proteins at this time.

New crop cottonseed meal should be in production in the extreme southeast within the next two to three weeks and prices quoted are as much as $9 ton under the present day asking prices for immediate shipment.

There has been no improvement in broiler prices which remain steady between 16 and 17¢ lb., f.o.b. farms. Most of the southeastern states continue to decrease their chick placements with growers.

With good supplies and fair demand, corn is now being delivered in the Georgia area at $1.43 bu.

With slow movement of citrus pulp and heavy inventories on hand, some processors have reduced their prices as much as $2.50 ton this week to try to move some of their stocks before the new season.

Central States

During the week ending July 29 there was nothing at all in the way of an outstanding development in the formula feed market in this area. The fact that top hogs seem to be leveling off around the $15 top price, rather

(Turn to MARKETS, page 99)

Wisconsin Senate Lays Aside Marketing Act

MADISON, WIS.—The Wisconsin Legislature has recessed, and the Senate has laid over until the fall session a controversial Agricultural Marketing Act passed by the Assembly.

The bill would set up marketing orders on agricultural products after approval in a farmer referendum, and would have the Wisconsin State Department of Agriculture administer the orders. Such orders would regulate production and marketing, provide for price postings, and set up a stabilization fund financed by farmers for the purchase of surplus commodities.

A substitute proposal, also laid over, would eliminate production controls, lessen penalties for violations, and reduce the maximum amount which farmers could be assessed for the program.

The measure was Gov. Gaylord Nelson's major farm bill, and was hailed by supporters as a self-help plan to enable farmers to work out their own programs for specified commodities.

Opponents charged that the bill would put the state in the grain storage business, and would result in price fixing. They also termed it a step toward socialized agriculture.

GMI Announces Three Appointments

MINNEAPOLIS — Appointment of a vice president of General Mills, Inc., and the assignment of two executives to duties relating to the international activities of the company has been announced by C. H. Bell, GMI president.

Zeus Soucek, who has served as general manager of the mechanical division of GMI since 1954, has been appointed vice president of the company and head of the Washington, D.C., office, Mr. Bell announced. Mr. Soucek will represent GMI, Mr. Bell said, in contacts with all government agencies and with business organizations. He will also report to the company's management on federal legislative and regulatory developments of significance to GMI, including its international operations. The company's Washington office will be in the Solar building, room 506, at 16th and K streets Northwest.

Edwin W. Rawlings, financial vice president, has been assigned additional duties as director of international activities for the company, Mr. Bell reported. H. M. Joslin, who has served as administrative assistant to the executive vice president in charge of mechanical and chemical activities, was named deputy director of international activities.

APHF Offers Grants To Six Colleges

ST. LOUIS, MO.—The American Poultry & Hatchery Federation meeting here recently offered grants-in-aid totaling $10,920 to six land-grant colleges and universities. The grants are for one year.

The research grants are as follows:

- University of California, $1,500, for tumor transplant immunity and resistance study on the leukosis complex.
- Michigan State University, $1,500, for an investigation of blood and meat spots and other defects affecting the marketability of shell eggs.
- University of Tennessee, $1,500, for an environment study on conditions affecting poultry.
- Colorado State University, $2,000, for inter-relationship of genetics and nutrition of laying hens.
- Iowa State University, $2,000, for egg quality variations between and within strains.
- Virginia Polytechnic Institute, $1,920, for behavior patterns as they affect broiler production.

New Mill Being Built in Illinois

SIBLEY, ILL.—A new feed mill is being built by Sibley Farms Service Corp., which will function as a custom mill and bulk feed plant simultaneously. It will operate as Sibley Complete Feed Service, a division of Sibley Farms.

The mill will serve the general public as well as tenants of Sibley Farms, all on an equal basis, according to C. B. Slocum, Sibley Farms manager.

The new plant features three separate driveways to provide a traffic flow which eliminates bottlenecks and enables both operations to run efficiently.

A 10-ton scale in the custom receiving drive and a 20-ton scale on the bulk loading drive provide accurate ration formulations and correct delivery weights of bulk feeds, Mr. Slocum commented.

All mixing concentrates will be stored in bulk in the milling section and automatically weighed through a batching hopper scale.

The milling section and driveways will be enclosed in a building 32x75 ft. The 32x40-ft. office and warehouse building will join the milling building to make a "T" formation.

Equipment includes: An 85-hp., two-motor hammermill with remote screen changer; a 20-in. all-purpose roller mill; a two-ton and a three-ton vertical mixer with molasses attachments; a 250-bu. capacity dump sink with a 20-ft. drag feeder, and a 5-hp. truck hoist to serve the dump.

Eight inside bins will hold bulk concentrates and grain, with four 15-ton outside bins for complete rations. Two elevator legs and several auger conveyors complete the fully-mechanized feed handling system.

"As the Sibley Farms Service Corp. already has 125,000 bu. of ear corn storage and 192,000 bu. of shelled corn and oat storage, we anticipate the major portion of the feed business operating under the grain bank system," Mr. Slocum said. "An additional grain bin will be erected beside the milling section to provide an adequate working supply of grain."

Cully Slocum will manage the feed operation. A 1954 agriculture graduate of the University of Illinois, he was formerly employed by McMillen Feed Mills, Inc., Ft. Wayne, Ind., and operated a mill at Mahomet, Ill.

70-Acre Cattle Feeding Lot Planned in Kansas

EMPORIA, KANSAS—A new 70-acre commercial cattle feeding lot, an enterprise of the Teichgraeber Milling Co., Wayne Roger, Matfield Green and J. Manuel Hughes, Emporia, is scheduled to be opened by the end of the year. Capacity will be 3,000 head with room for expansion to 10,000 head.

Four New Firms Make Sun-Ray's Horse Feed

LEXINGTON, KY.—Sun-Ray Feed Mills, Lexington, has added four new associates for the manufacturing and distribution of Stamm, a protein-vitamin-mineral supplement for horses, it has been announced by Carl Hudgins, vice president and sales manager of the firm.

The new associate manufacturers of Stamm are: Dixie Mills Co. of East St. Louis, Ill.; Ranch-Way Feed Mills, Ft. Collins, Colo.; Monte Vista (Colo.) Mills, and Uncle Johnny Mills, Houston, Texas. Ranch-Way Feed Mills and Monte Vista Mills are both divisions of Colorado Milling & Elevator Co., Denver.

Sun-Ray had previously licensed as Stamm associate manufacturers Sherwood Feed Mills, Baltimore; C. C. Stafford Milling Co., La Puente, Cal., and the Alamo Feed Mills in San Antonio.

Mr. Hudgins noted that since fire destroyed the Sun-Ray plant July 10 the production of Stamm has been shifted to a neighboring mill.

Arabs Authorized To Buy U.S. Poultry

WASHINGTON—The U.S. Department of Agriculture has announced issuance to the United Arab Republic of an authorization to purchase up to $500,000 worth of chickens and turkeys from U.S. suppliers under Title I of Public Law 480.

The authorization provides for purchase of approximately 650 metric tons (basis: chickens) of whole, frozen, ready-to-cook chickens and turkeys. Quality must be equivalent to U.S. grade A, and the poultry exported must have been produced in the continental U.S.

Contracts made between July 31, 1959, and Aug. 31, 1960, will be eligible for financing. Delivery will be to importer, f.a.s. vessel, U.S. ports. Shipments may be made between July 31, 1959, and Sept. 30, 1960.

Information concerning purchases may be obtained from Hassan El Abd, Commercial Counselor, Embassy of the United Arab Republic, 2215 Wyoming Ave., N.W., Washington 8, D.C.

E. A. Piper Dies After Heart Attack

MANKATO, MINN. — Everett A. Piper, 53, territory manager for Hubbard Milling Co., Mankato, passed away after a heart attack recently, at Mason City, Iowa.

Mr. Piper joined Hubbard Milling Co. in 1947, and for several years managed a territory in Wisconsin with headquarters at Baraboo. Later he was transferred to Mason City.

Mr. Piper is survived by his wife, Ruth, a married daughter, Jackie, and a daughter, Judy, at home.

3-5 Years of Heavy Supplies in Farm Products Predicted

CRAWFORDSVILLE, IND.—A Purdue University agricultural economist currently serving as a national agricultural policy consultant recently declared that "burdensome supplies" of farm products continue in prospect for the next three to five years.

J. Carroll Bottum, who is on leave to serve as a consultant at the National Agricultural Adjustment Center, Ames, Iowa, made the observation in a speech at an economic outlook banquet.

"Prospective trends in population and shifts in consumers' eating habits indicate the demand for livestock products, with the exception of eggs, will increase approximately 40% by 1975," Dr. Bottum asserted.

"Nevertheless, if there are no changes in the farm programs, feed and livestock prices will be under severe pressure from burdensome supplies during the next three to five years," the economist added.

With no changes in the farm program and with prospective supplies and loan rates, corn prices are likely to fluctuate around $1 bu., he predicted. Livestock prices will adjust to near their normal relationship to corn prices, Dr. Bottum said.

"This would make hog prices around $14 with the usual seasonal and cyclical variations from this level," he went on. "These large current and prospective supplies of feed and livestock result from excessive resources in agriculture, when viewed from the current demand prospects."

Dr. Bottum said that more land would be taken out of crop production during the immediate years ahead, either as a result of a change in government programs or by competitive forces.

Nutrena Mills Holds Planning Conference

MINNEAPOLIS — Thirty-six sales and operations executives of Nutrena Mills, Inc., Minneapolis, recently concluded a three-day planning conference at the company's 850-acre research farm at Elk River, Minn.

James C. North, Nutrena president, reviewed the past year's activities, during which sales increased 23.8% to an all-time record high. Other company and research farm personnel outlined sales strategies and production systems to be introduced during the upcoming crop year.

Field representatives attending from Nutrena's 24-state marketing area included:

Northern region — Warren Engelland, Minneapolis; O. S. Sonstegard, St. Paul; D. F. Broekemeier, Lincoln, Neb.; Arch Gilchrist, Sioux City, Iowa, and R. O. Pape, Mitchell, S.D.

Central region—Earl J. Raff and D. E. Palmer, Peoria, Ill.; Roy Jones, Crawfordsville, Ind.; Gerry Rosell, Kirkwood, Mo., and Fred Lockwood, Cedar Rapids, Iowa.

Southeastern region—H. L. George, Jr., and J. T. Helbig, Memphis, Tenn.; W. P. Cameron, Charlotte, N.C.; R. A. Hayes, Griffen, Ga.; N. H. Davis, Mobile, Ala., and C. V. Shaw, Meridian, Miss.

Southwestern region—R. E. Whitworth, Jr., Kansas City, Kansas; M. E. Rudolph, Mission, Kansas; W. W. Arnold, Wichita Falls, Texas; R. G. Baumhardt, Weatherford, Texas; G. W. Jenkins, Springfield, Mo., and Russell Jensen, Norman, Okla.

General office representatives from Minneapolis included, in addition to Mr. North, E. C. Fuller, C. L. Whitworth, J. S. Collins, W. B. Palm, Jr., J. N. Boyce, J. R. McDougall, L. W. Cottrill, R. H. Mason, F. P. Berry, R. C. Scott, R. V. Grier, Robert Adams and H. R. Patton.

Uniform Grain Storage Agreement Examined By Storage Industry, USDA Representatives

WASHINGTON — Representatives of the grain storage warehouse industry and officials of the U.S. Department of Agriculture met in Washington this week to examine the situation regarding the Uniform Grain Storage Agreement.

Following the conclusion of the meeting Clarence D. Palmby, associate director of Commodity Stabilization Service, said that USDA was this year in a better negotiating position than it was in 1956, but he would not go so far as to say that this could mean any reduction in storage charges.

Trade spokesmen declared that they came to review the situation with USDA officials and that their negotiating position with the government was that existing rates had been determined previously as fair and adequate, but that they also wanted an adequate review of the entire outlook since it might reveal that present rates failed to reflect increased cost conditions.

In the 1956 Uniform Grain Storage Agreement there was a reduction in grain storage charges to the USDA under the uniform agreement.

Any changes in the present terms of the agreement would not be contemplated before July 1, 1960, no matter what political heat develops.

USDA has prepared and will shortly distribute a questionnaire for grain warehousemen in an attempt to ascertain a breakdown in the costs of operation of such facilities. This mail investigation will be the first step by USDA to obtain data to back up later considerations of any changes in the agreement.

USDA Test Favors Finely Chopped Bruised Forage

WASHINGTON—Scientists have found that finely chopped and bruised forage can provide better silage than that made from the conventional coarsely-chopped forage, the U.S. Department of Agriculture reports.

Dairy and engineering scientists of the department's Agricultural Research Service state that results of experiments now in progress show that almost 10% more dry matter can be recovered from finely cut and bruised forage used for silage than from coarsely-cut forage.

In experiments at USDA's Agricultural Research Center, Beltsville, Md., the scientists used third-cutting alfalfa, harvested unwilted with a forage harvester set either for a 3-in. cut or for a 5/16-in. cut. The finely cut alfalfa was run through a flail-type harvester to reduce it to an almost pulpy consistency. Forage was harvested in the morning and also in the afternoon and was placed in steel silos for 145 days.

The mechanical pre-ensiling treatment had a marked effect on final quality of the silage. Bruised forage silage proved more acidic than chopped forage silage, and contained larger quantities of the desirable lactic acid. The quantity of butyric acid, undesirable in silage, was much smaller in the bruised forage silage, especially in that from forage harvested in the afternoon. Content of ammoniacal nitrogen also was substantially smaller in the bruised silage.

In general, the value of the bruising treatment was greatest in silage from afternoon-harvested forage. The lowest quality silage was produced from afternoon-harvested chopped alfalfa.

The scientists feel that rupture by bruising a high percentage of the plant cells was responsible for producing fermentation more rapidly and profoundly different from that occurring when the crop was coarsely chopped.

Spoilage was prevented in all silos, so oxygen appears to have been well excluded under both treatments. Density differed with treatments, but previous work with one-quart silos indicated that this would not cause differences in silage quality when air is sealed out.

Ralston Purina Sales Reach All-Time High

ST. LOUIS—Donald Danforth, chairman of the board, Ralston Purina Co., St. Louis, has announced to shareholders in the company that total sales reached a new all-time high in the April-May-June quarter. Earnings, however, fell $460,941 or 8¢ per share below the same quarter last year, he said.

Net sales for nine months ended June 30 were $401,761,451, compared with $371,781,154 for the same period last year. Net earnings for the same 1959 period were $14,944,588, while the comparable figure for 1958 was $13,160,560. This increase of $1,784,028 equals 24¢ per share.

Charts included with Mr. Danforth's report showed that "farmers who are providing our basic protein foods have not shared in the general prosperity."

He said, "The situation for our farm customers has been materially aided, however, because as a result of research and more efficient operations we have both increased the quality and reduced the prices of our Purina Chows.

"The final three months last year were unusually profitable and it is anticipated that the present downward trend in earnings may continue through this period."

V. C. Florian

PROMOTION—V. C. Florian has been appointed general manager of Valley Mills, division of the Merchants Co., Vicksburg, Miss. He succeeds E. C. Harriss, who has been named manager of the new Vicksburg Terminal Elevators, another division of the Merchants Co., in Vicksburg. Mr. Florian is an engineering graduate of the University of Missouri, and has served as production manager of Valley Mills for the past four years. Before joining Valley Mills he was associated with the Ralston Purina Co., St. Louis, for more than nine years. Valley Mills manufactures and distributes poultry and livestock feeds in Louisiana, Mississippi and Alabama.

Report Antibiotic Increases Live Pigs

ATHENS, GA.—Results of a three-year study by Dr. R. F. Sewell and Dr. J. L. Carmon of the University of Georgia's college experiment station, Athens, showed that feeding the antibiotic chlortetracycline to sows continuously through the gestation-lactation cycle for three generations resulted in an increase in the percentage of live pigs born, researchers report.

The average number of live pigs farrowed per litter was 8.00 and 6.63 for the non-treated and treated groups, respectively. Significant treatment differences were also found to exist in the percentage of pigs weaned, according to the researchers. Sows fed the antibiotic also weaned a significantly higher percentage of the pigs farrowed alive than did the untreated sows.

Dr. Sewell and Dr. Carmon said no significant treatment effects were found for birth weights, 21-day weights or weaning weights. Neither was there any significant treatment by generation interactions with regard to any of the variates studied.

APHF President Outlines Past Year's Activities; Announces Convention Plans

ST. LOUIS—Speaking before a recent meeting of the board of directors of the American Poultry & Hatchery Federation in St. Louis, Vern F. Steckley, Federation president, outlined APHF's activities during the past year, and revealed plans for the group's 1960 convention.

The 1960 convention, he said, will be held in Memphis July 19-21—the first time since 1931 that an APHF convention has taken place in the South.

Speaking of the National Egg Council, the Federation president said membership growth has been slow, that in May and June of 1959, during active membership solicitation, a total of less than 200 producers have joined.

"We continue to believe that the National Egg Council has a strong future and that it will, in time, become a dominant poultry organization," he said. "Lack of adequate mailing lists has hampered membership solicitation. Sectional problems also persist. There has been a fear on the part of some of our established regional trade associations that the National Egg Council might duplicate their services and functions.

"State APHF affiliates have, in some instances, taken prompt action toward forming state egg council affiliates. Indiana, Missouri and California are notable examples. These states have active councils. A California request for recognition is pending, as is one from Alabama, Minnesota and South Dakota.

"Egg council affiliates are being set up in Illinois, Kansas, Nebraska, Iowa, Wisconsin, Oregon, Colorado and Ohio. There is an active Texas Egg Council, but it has not applied for recognition since it apparently has been set up to deal only with promotion.

"Progress in building state affiliates has been quite slow. For this reason, the board made a decision to start soliciting national memberships only, and to build from the top down. Once there is a representative group of producers from a particular state holding national memberships, efforts will be made to create for them a state affiliate and representation on the national directorate."

Quality Egg Grading

Mr. Steckley noted that APHF, in conjunction with the Institute of American Poultry Industries, has held several conferences this past year with small groups of breeders, egg handlers and processors to discuss simplified quality egg grading programs. He said it appears that all the answers on what consumers will accept as egg quality have not been found, and posed this question: "Is it better to establish high minimum standard for 'AA' enhancing the product in general by reducing merchandising to price alone, or would it be better to provide a tolerance in 'AA' quality and make room for brand name merchandising and pricing? If Jones brand 'AA' eggs are identical in quality with Steckley brand 'AA' what incentive is there for a producer to pay Mr. Jones the extra 2¢ he asks?"

The speaker commented on the Delaney Amendment to the Food Additive Law, under which the Food and Drug Administration has acted to impose restrictions dealing with the feed industry use of estrogens and arsenicals. He said that indirectly the poultry industry is concerned because the elimination of arsenicals in the control of poultry health may presage a sharp upturn in poultry mortality.

"Estrogens have been a great help in stepping up the growth rate of our chicks and poults. Here again, hatcherymen should be on guard against unusual claims in advertising. We heartily recommend that each member of the federation re-appraise his warranties and guaranties," he said.

Mr. Steckley discussed progress so far in a three-year research project on epidemic tremors at the University of Connecticut—a project which APHF supports financially. He said additional work on the project is needed.

Molasses Market Weak In Midwest, Gulf States

NEW ORLEANS—Feeding cane molasses markets were weak in the Gulf and Midwest states during the week ended July 28. Demand improved slightly at the lower prices but generally remained slow to moderate.

The pressure of a fully adequate supply situation seemed to be the main factor affecting the market tone. New Orleans prices, at 11.25¢ gal., were mostly ¼¢ lower than a week ago. Prices declined ¼¢ at Mobile, were unchanged to ¼¢ lower at Texas ports and unchanged to ½¢ gal. lower in Florida.

Several markets in the Midwest and South lowered prices ¼¢ gal., including Cincinnati, St. Louis, Kansas City and Memphis. Tank car prices at Denver were 20¢ gal. ($34.24 per ton), or about ¼¢ under current quotations by tank truck. West Coast and East Coast markets held steady at unchanged prices.

Corn molasses (hydrol) market at Chicago weakened. Prices were unchanged to 50¢ ton lower than last week.

Cuban exports of blackstrap molasses during the period Jan. 1-June 15, 1959, amounted to 34.6 million gallons from the 1959 sugarcane crop, and 2.1 million gallons from the 1958 crop, according to the Cuban Sugar Stabilization Institute.

During the same period last year Cuban exports of blackstrap amounted to 124.2 million gallons from 1958 crop, and 6.9 million gallons from the 1957 crop.

A recent sale of 1.2 million gallons of the 1959 crop (according to trade reports) brings total Cuban sales for export this year to 81.8 million gallons. A substantial quantity of Cuban blackstrap produced in 1959 has not been reported sold to date.

WORKMAN KILLED

CINCINNATI—William Kuntz, 62, died July 14 in St. Mary Hospital here as the result of injuries sustained the previous day when he fell 40 feet down an elevator shaft at the Beeckman St. plant of the Early & Daniel Co. Mr. Kuntz was riding a manlift and, in attempting to get off at the second floor, evidently lost his footing and plunged down the shaft to the basement floor. This was the first fatal accident Early & Daniel has had during the last 15 years, company officials said.

PL 480 Plan May Include Lard, Pork If Price Drops

WASHINGTON—Ezra Taft Benson, Secretary of Agriculture, is said to be currently studying the possibility of placing lard and pork products under a Public Law 480 program this year. When hog prices broke badly in 1956, USDA resorted to a PL 480 program for these products.

USDA officials said July 31 they have no inkling of any decision from the Secretary's office, but they would not be surprised if he decided to use this method of disposal again this year, since a break in hog prices seems indicated.

However, USDA authorities warn that the outlet for these products is limited, particularly in the case of lard, at this time, since emphasis on edible vegetable oils instead of fats appears to have taken over the export market.

It is recalled that in the past, lard has been programmed under PL 480 to South Korea, Austria, Yugoslavia and Brazil, but in some instances these programs were not too successful.

In the case of pork products, the greatest success was in export of canned hams to Spain under PL 480, and there is a possibility of some success in doing this again if the new program is adopted.

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Production School, Short Course Program Details Are Announced

KANSAS CITY — Final program details have been announced for the 1959 Feed Production School.

The school, sponsored by Feed Production School, Inc., will be held Sept. 23-25 at the Continental Hotel in Kansas City. In addition, there will be a Small Mill Short Course on Saturday, Sept. 26, for operators of small mills.

The production school program committee this year chose pelleting as the principal subject for the production school because of great industry interest and because of the need for more factual data on this phase of feed manufacturing.

The programs below—for the main Feed Production School and for the Small Mill Short Course—are the result of extensive planning by the committee, with the assistance of pelleting authorities. The presentations will include reports on six industry-sponsored research projects.

Further information regarding the production school and short course may be obtained from Feed Production School, Inc., 20 W. 9th St. Bldg., Kansas City 5, Mo. The tuition for the three-day production school is $55. This includes a transcript of the complete proceedings, including the research reports. The tuition for the Small Mill Short Course is $20, which also includes a printed transcript of the proceedings. Regular production school enrollees may stay on for the short course at an additional cost of $10.

FEED PRODUCTION SCHOOL

Wednesday, Sept. 23

WELCOME

Fred Darragh, Jr., chairman, board of trustees, Feed Production School, Inc., president, Darragh Co., Inc., Little Rock, Ark.

WHY YOU ARE HERE

Arthur J. Saalfield, Jr., chairman, 1959 Feed Production School Committee, and plant superintendent, the Quaker Oats Co., Sherman, Texas.

THE NEW LOOK IN PRODUCING FEED FOR RUMINANTS

H. C. Prescott, general manager, Aero Bulk Mfg. Co., Kansas City, Mo.

"Pelleting Roughages and Complete Rations"—Pelleted rations for beef cattle and lambs are coming fast in many areas. Suggestions on how to do it will be included with explanation of current practices.

PELLETING COMPLETE RATIONS FOR POULTRY AND SWINE

Phillip Wake, J. H. Wake Mills, Oskaloosa, Iowa.

"Right Die and Grind Will Give Maximum Production"—Experienced feed manufacturer explains how with proper set-up and formulation complete pelleted feeds with high grain content can be successfully produced.

PELLETING DAIRY FEEDS

Robert L. Stroup, Sprout, Waldron & Co., Muncy, Pa.

"Pelleting Complete Concentrate Mixture for Milk Cows Offers Real Possibilities"—Ways of increasing and improving dairy pellet feed production using existing facilities and less labor revealed.

A RESEARCH ENGINEER LOOKS AT ROUGHAGE PELLETING AND WAFERING

John B. Dobie, agricultural engineer, University of California, Davis.

"Forage Pellets and Wafers Require Special Processing"—Research findings confirm certain advantages in use of highly compressed roughage. This engineer has some practical solutions to problems in handling and processing forage from the field to the feedlot.

PELLETING PROBLEM INGREDIENTS

C. N. Hultberg, vice president, California Pellet Mill Co., Crawfordsville, Ind.

"Problem Ingredients Can Be Controlled"—Tips on the pelleting of feeds containing urea, whey, milk products, sugar, etc.

WHAT REALLY HAPPENS TO MICRO-INGREDIENTS IN PELLETING?

Robert C. Wornick, head, Chemical Laboratories, Chas. Pfizer & Co., Terre Haute, Ind.

"Research Reveals Answers"—Extensive compilation of information and original research will tell just what the effects of temperature, moisture and pressure can be on vitamins, medicaments and other micro-ingredients.

A SYSTEM FOR PRODUCING MOLASSES PELLETS ON A HARD PELLET MILL

Will Brooks, Illinois Farm Supply Co., Springfield, Ill.

"Veteran Production Man Explains His System for Making High-Protein Molasses Pellets"—Design and operation are explained in a production man's language. Practical solution offered.

PROPER MASH CONDITIONING MILL WILL IMPROVE PELLET QUALITY

Oak B. Smith, director of market research, Wenger Mixer Manufacturing Co., Kansas City, Mo.

"New Research Findings on Ways to Improve Pellet Value and Toughness"—The heretofore little heard of factor of gelatinization of starches has assumed new importance. Temperature and steam application time open new avenues, as shown by this extensive research project. The first and exclusive report on this subject, including a new system for measuring pellet toughness.

Wednesday Evening

TECHNICAL ASPECTS OF RESEARCH PROJECTS

John B. Dobie, Robert C. Wornick, Oak B. Smith

"Researchers Get Deep into Subject Matter"—Concurrent technical sessions with speakers presenting research projects during the Wednesday program. Opportunity given for serious minded students to question and discuss results of research.

Thursday, Sept. 24

MORE EFFICIENT CRUMBLIZING

Robert Bartikoski, Nutrena Mills, Inc., Minneapolis, Minn.

"Maximum Efficiency in Crumblizing Can Be Attained With Proper Roll System"—Experienced production man tells how to reduce fines and the "multiple pelleting" problem.

FOR MORE PROFIT, WATCH THE COST OF PELLETING

A. J. Bohl, executive engineer, Wolf Management Engineering Co., Chicago, Ill.

"Production School Sponsored Research Reveals Facts"—Actual in-plant studies examine cost area in producing and handling pellets and crumbles. Pertinent suggestions on how to reduce costs will be made.

FINES CAN BE CONTROLLED WITH PROPER HANDLING AND STORAGE

Art Stegner, product manager, farm equipment division, Butler Manufacturing Co., Kansas City, Mo.

"Research Shows How Fines Are Produced"—Extensive examination of load-

(Turn to PRODUCTION SCHOOL PROGRAM, page 91)

Fish Meal and Oil Production Increases

WASHINGTON — The Bureau of Commercial Fisheries reports that during May, 1959, 25,000 tons of fish meal and scrap and 2.6 million gallons of marine-animal oils were produced in the U.S. and Alaska. Compared with the corresponding month of 1958, these figures represent an increase of 37% in fish meal and scrap production and 17% in oil yield.

Menhaden meal production during May of this year amounted to 22,000 tons, an increase of 66% compared with the same month last year. Menhaden oil production was 23% above the amount produced during May of last year, accounting for 97% of the month's total oil yield, the government bureau says.

Production of homogenized-condensed fish amounted to 12.2 million pounds during May, 1959—72% above production of this item for the same month last year. A total of 2.9 million gallons of fish solubles was produced during May of this year, more than twice the amount reported for May, 1958.

The marine-animal oil yield from January through May, 1959, was 3.2 million gallons, a gain of 552,000 gal. compared with the same period of the previous year. Meal and scrap production during the first five months of 1959 amounted to more than 39,000 tons—9,000 tons more than were reported during the same period of 1958.

Grain Inspection Office Opened in California

STOCKTON, CAL.—The U.S. Department of Agriculture's Agricultural Marketing Service recently opened a supervisory grain inspection office at Stockton, California's only inland port.

Increasing volume of grain business moving through Stockton Elevators prompted the establishment of the inspection office, according to Murray Bell, in charge of the AMS grain division's district office in San Francisco. The Stockton area has experienced the greatest grain-handling growth in the past five years of any comparable region in the U.S., making the port of Stockton the second largest grain center on the Pacific Coast, according to Mr. Bell.

The USDA grain inspectors will supervise the work of federally licensed state inspectors, as well as handle appeals and inspect government-owned commodities.

The office features laboratory equipment used in inspection and grading of wheat, corn, barley, oats, rye, grain sorghums, flaxseed, soybeans, mixed grain, hay and rice.

Farmers Exchange Names Feed Manager

WEST SPRINGFIELD, MASS.—John Young, Buffalo, has been named manager of feed production, Eastern States Farmers Exchange, to succeed Wayland P. Frost, who retired recently.

Mr. Young's responsibilities include managing both the Huron, Ohio, and the Buffalo Eastern States feed mills.

He has 31 years' experience in a variety of responsibilities at the Buffalo mill, beginning as a mill worker.

Soybean Oil Plant Planned in Arkansas

STUTTGART, ARK.—A solvent soybean oil extraction plant will be built here by the Arkansas Grain Corp., an affiliate of the Arkansas Rice Growers Cooperative Assn.

The plant, designed to handle 500 to 700 tons of soybeans daily, will cost $1,500,000, and will employ about 35 persons. It is expected to be in operation in time for the 1960 soybean harvest.

Smaller Broiler Price Advance Predicted

ST. LOUIS, MO.—Present signs indicate that the upturn in broiler prices predicted for this summer will not materialize to the extent anticipated, according to a recent report by the broiler industry committee of the American Poultry & Hatchery Federation.

The report says available figures on breeder placements indicate that plentiful supplies of broiler hatching eggs will be available at least for the remainder of 1959, and probably for the first quarter of 1960.

"A planned marketing program for poultry products is essential to the industry's survival," says the report. Much of the so-called "surplus chick production" is the result of indiscriminate hatching without a known and firm sales commitment, according to the report. The "cheap chick" problem results from hatching on speculation—a practice which must be curtailed if relief is to be forthcoming.

The APHF report says credit policies, both the credit extended to customers and the credit asked of suppliers, should be thoroughly reviewed. Credit extended in an orderly fashion is a good and necessary part of the industry. It has permitted growth and expansion as market demands dictated the need. However, says the report, a few in the broiler industry have abused good credit practices to the detriment of many.

The report concludes by saying the committee continues its opposition to any form of government production controls, recommends continued liaison and close cooperation with the National Broiler Council, and urges that every effort be made within the industry to improve relations with marketing interests of the poultry industry.

Federal Lamb, Mutton Grading to Continue

WASHINGTON — Ezra Taft Benson, secretary of agriculture, recently announced that federal grading of lamb and mutton carcasses will be continued, and that the U.S. Department of Agriculture will proceed to consider revised grade standards for lamb and mutton to eliminate any deficiencies in the present standards.

"If improved grade standards for lamb and mutton are not developed to meet more adequately the needs of the industry, the department will give further consideration to suspension of federal grading of lamb and mutton carcasses," the Secretary said.

The department has had under consideration the request of some groups that federal grading of lamb and mutton be suspended. USDA has been receiving the views of interested individuals and groups since May 25.

The Secretary invites the livestock and meat industry and other interested parties to submit to USDA by Sept. 1, 1959, proposals for improving the grade standards for lamb and mutton carcasses.

Illinois Bean Crop Seen in Good Shape

MINNEAPOLIS, MINN.—The Illinois soybean crop is in as good or better condition than a year ago this time, and acreage planted to beans appears to be about the same as a year ago, according to Louis Brewster, oilseeds division, General Mills, Inc., Minneapolis.

Mr. Brewster says, "We had been led to believe there were severe drouth conditions in central Illinois. I spent three days looking for this condition and never found it. Certainly it is not lack of moisture that is holding the new crop options at their current level. Illinois soybean production will come very close to equaling last year's record 140 million bu."

FACES AT GEORGIA CONVENTION—In photo at left, a princess—in this case, Georgia Poultry Princess Dorothy Taylor, 18, Clyattville—poses with Charles N. Dannals, Jr. (left), retiring president of the Georgia Feed Assn., and Will L. Kinard, secretary-treasurer, on steps in front of the General Oglethorpe Hotel, Savannah, where association held its recent convention. (Feedstuffs, July 18) New president of the association is C. G. Ellis (center photo), John W. Eshelman & Sons, Chamblee, former vice president. Enjoying the sun following their panel discussion of beef finishing in the Southwest (photo at right) are, from left: John Gilbreath, Collinsville (Ala.) Milling Co.; Dr. Marvin Wilkening, Alabama Flour Mills, Decatur, Ala., and Ben Denton, Armour & Co., Atlanta, Ga.

Miles Chemical Plans Network of Agents To Market Enzymes

ELKHART, IND.—A major marketing change which will expedite Miles Chemical Co.'s participation in the farm feed business was announced this week by H. F. Roderick, president of the company, which is one of four main divisions of Miles Laboratories, Inc.

The change, he said, includes the building of a network of agents to sell the company's enzymes to the farm feed industry. In the past, Miles has not marketed directly to this field, but the farm feed business is not new to the company. Since 1924, Takamine enzymes, now a part of Miles Chemical, have been used experimentally in animal and poultry feeds.

Mr. Roderick said, "The goal is to establish our name in the farm feed industry by offering a select group of products through a hand-picked distributor network. At the same time, we plan to back this program with extensive research and product development to insure a continuing flow of new and upgraded products for specific farm feed applications."

He noted that the company is currently supporting several college and university research programs aimed in this direction.

Mr. Roderick said it has been found that enzymes "open the way to improved utilization of feed nutrients both in common livestock and poultry rations and in those making maximum use of lower-cost grains such as barley and milo."

He noted, also, that the feeding value of oats, wheat, mixed feed and rye is improved by enzyme supplementation, and that egg production, feed conversion and hatchability are improved when laying flocks are fed a barley diet supplemented with enzymes.

College tests show that 14% or less moisture corn supplemented with enzymes brings a 12% increase in beef cattle gains with 7% less feed required for each pound of gain. "The additional profit over feed cost represents a return of $4.28 for each dollar spent for the enzyme mixture," Mr. Roderick said.

Work with swine indicates the addition of enzymes to baby pig rations increases gains nearly 6% with 3% greater improvement in feed efficiency, he said. Enzymes added to swine diets containing milo resulted in average daily gains from 1.17 lb. to as much as 1.41 lb. Feed efficiency showed a corresponding increase.

"We realize," said Mr. Roderick, "that the surface has just been scratched as far as potential uses of enzymes in the feed industry are concerned. We believe that even more dramatic benefits from enzyme-fortified feeds will be forthcoming shortly. We are preparing now for these developments."

EXPANSION ANNOUNCED

LONE ROCK, IOWA—Plans for expansion, including a 100,000 bu. flat storage bin and a new feed mill, were announced recently at the 19th annual meeting of the Lone Rock Co-op Exchange Co. Two directors, Delmar Fischer and Raymond Laabs, were reelected at the meeting. L. W. Geitzenauer is manager of the company.

Contract Cattle Feeding May Come To Eastern Oklahoma

MUSKOGEE, OKLA. — Contract cattle feeding may soon be tried in eastern Oklahoma. At least one feed mill, the Cole Grain Co., Inc., has been approached by a large cattle owner to go 50-50 on feeding out calves.

"This man has 1,500 calves or will get them," said the company's sales manager, Harold Featherston, "and he wants us to go in with him. He says that if this partnership succeeds, several other cattle feeders would be willing to sign similar contracts."

Under the present proposal, the rancher would furnish the calves and feeding facilities, while the feed company would furnish feed, medication and some field supervision. When the cattle were sold, the profits would be split evenly.

"The deal has not been made yet," said Mr. Featherston, "but it has great possibilities. It would increase the firm's feed sales, while the cattle owner would not be forced to borrow so much money for feeding. Also the owner and feed nutritionists working together could possibly come up with a better feed conversion ratio. Whether we try this or not, I'm sure that contract feeding of some kind will soon make its appearance here."

Feed Business Bought

KALONA, IOWA — Yoder Feeds, Inc., Kalona, has purchased the grain and feed business of the Wayland Feed & Grain Co., according to Lester Yoder, president of Yoder Feeds. Dean Meyer will be the plant manager.

NEW FEED PLANT

ALGONA, IOWA—The Lone Rock Co-op Exchange Co. board of directors has agreed to let a contract to the T. E. Ibberson Co., Minneapolis, to construct a feed plant. The mill will be concrete with 31 bulk bins, a three-ton feed mixer, push button control, 100 h.p. hammermill and a corn crimper with nine bins.

Macy & Co. Milling Business Sold

RED BLUFF, CAL.—Purchase of the Macy & Co. milling operations, Red Bluff, was announced recently by Ronald Williams, Palo Alto, Cal., developer and businessman. The company, with headquarters in Red Bluff, also has plants in Redding, Anderson and Corning. Mr. Williams said the purchase price was more than $500,000.

Macy & Co. was started by Wilmer H. Macy, now an Orland resident, in 1914. It has served livestock and ranch customers in the area since that time. Irl Maxwell of Red Bluff has long been associated in the business and was one of the owners.

Mr. Williams said the 25 employees will be asked to continue with the company. He plans new policies, records, and working conditions.

The present management and office personnel, including Irl Maxwell and Ed Laslay, will continue with the company, Mr. Williams said.

Mr. Williams is the owner of the Town & Country Village, a shopping center across from Stanford University in Palo Alto. He recently began work on another shopping center comprising 50 acres in downtown San Jose. His new center will contain 200 stores and will be built at a cost of $25 million.

New plans for Macy & Co., Mr. Williams said, include modern facilities and greater stock and merchandising facilities to serve the area. He also revealed plans to engage in a farm and credit program to meet the needs of ranchers in the area. Expanded pick up and delivery service is also planned, he said.

OPEN HOUSE HELD

BRECKENRIDGE, MINN. — The Schuler Grain Co. recently held an open house to allow customers to view their new feed pelleting plant that is now complete and operating. The plant will handle Purina Check-R-Min in the feed mill.

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
May 23	1,240	533	888	885	94	756	1,672	1,884
May 30	1,267	633	786	759	135	670	1,753	1,832
June 6	1,275	482	844	872	123	733	1,699	1,832
June 13	1,310	590	913	810	100	742	1,755	1,905
June 20	1,228	635	677	831	110	839	1,742	1,869
June 27	1,263	568	735	862	136	799	1,694	1,963
July 4	1,186	620	814	778	99	818	1,722	2,001
July 11	1,222	551	719	854	106	754	1,778	1,894
July 18	1,202	607	833	825	129	908	1,591	2,055
July 25	1,212	629	707	878	108	865	1,625	2,001

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
May 23	1,251	585	2,933	337	7,053	211	3,446	2,498
May 30	1,223	723	2,998	365	6,951	188	3,404	2,465
June 6	1,243	575	3,016	351	7,002	178	3,413	2,486
June 13	1,168	658	3,037	338	6,961	223	3,461	2,533
June 20	1,322	533	3,019	339	6,807	231	3,470	2,439
June 27	1,124	529	2,926	357	6,922	206	3,461	2,256
July 4	1,066	521	2,981	327	6,776	225	3,406	2,464
July 11	993	550	2,919	351	6,573	172	3,394	2,370
July 18	1,117	565	2,930	366	6,554	160	3,363	2,292
July 25	1,272	515	2,764	354	6,298	187	3,295	2,214

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1959	Total 22 areas 1958
May 23	3,428	394	2,097	399	244	995	33,828	36,390
May 30	3,501	423	2,200	371	227	987	33,892	36,532
June 6	3,551	400	2,312	377	248	1,033	34,087	36,562
June 13	3,566	448	2,306	374	276	978	34,359	36,900
June 20	3,398	468	2,299	384	247	1,103	33,990	36,889
June 27	3,231	487	2,367	341	262	1,108	33,597	36,237
July 4	3,580	449	2,250	332	243	1,015	33,673	35,436
July 11	3,525	386	2,301	306	238	1,021	32,977	34,912
July 18	3,483	354	2,157	351	203	945	32,990	33,846
July 25	3,597	423	2,142	303	237	1,046	32,671	33,378

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Arkansas Official Issues Statement On New Egg Law

LITTLE ROCK, ARK.—Dr. David Ibsen, state veterinarian with the Arkansas Livestock Sanitary Department, has taken steps to clear up some of the misinformation and misconception involving the new state egg-grading law.

In an effort to clarify the situation, Dr. Ibsen said this week he has mailed the following statement to county agents and state senators and representatives:

"There has been much confusion as to the exemption of the small flock owner under Sec. 3 of the Egg Marketing Act passed by the 1959 General Assembly.

"It was the intent of the legislature that the small flock owner be allowed to market his eggs without restrictions, through his local merchant or by himself, providing these eggs are involved in local trade only.

"If there is a packer in the community, we suggest that he purchase these eggs from the local merchant on the wholesale level. Under no circumstances should a merchant refuse to buy these small flock eggs as described above or move them through wholesale channels.

"This is to clarify the position of the Egg Marketing Division in the interpretation of the Egg Marketing Laws. As you will note, it was never, nor is it now, the intent of this office to shut off the source by which the little farmer can market his eggs.

"We feel that the legislative body intended that these farmers be allowed to market their eggs in the same manner as they have in the past."

Dr. Ibsen apparently took the action after Gov. Orval E. Faubus threatened to call a special session of the legislature to straighten out the situation.

Gov. Faubus declared the act was hurting the small family farmers (Feedstuffs, July 25, page 7).

Must Be Graded

The law requires that all eggs sold at retail must be graded and packaged, with the grade stamped plainly on the package. It was designed to improve the reputation of Arkansas as a producer of top quality eggs and to prevent the state from becoming a dumping ground for inferior-quality eggs from other areas.

But the act has created political fireworks since it went into effect July 1.

Gov. Faubus apparently still has not ruled out the possibility of a special session. Observers feel he is biding his time, watching the situation to protect what he terms "the interest of the small farmer."

Dr. Ibsen has blamed the egg law unrest on "roving peddlers who purchase eggs in rural areas."

The Egg Marketing Division of the Livestock Sanitary Board is charged with enforcement of the regulations.

Producers with fewer than 100 hens who sell eggs directly to their own customers do not come under jurisdiction of the law.

Ohio Firm Builds Grain Storage Bins

MAUMEE, OHIO — A $5 million mortgage has been filed in the office of the country recorder involving a loan by the Northwestern Mutual Life Insurance Co., Milwaukee, to Anderson Farmer Corp., Maumee, and the Andersons, a limited partnership consisting of 13 Andersons.

The money, according to John D. Anderson, a partner of the Andersons, will be used to complete construction of storage bins for 10 million bushels of grain at the Anderson elevator, Maumee, and storage for 500,000 bu. at the Middlegrounds.

EGG GIVE-AWAY—As a part of "The Golden Goodness of Eggs" promotion launched by Hess & Clark, Inc., Ashland, Ohio, at the recent American Poultry Congress & Exposition in St. Louis, 50,000 hard-cooked eggs were given away. In this picture four members of the "Promenaders," square dancers of the Red Foley troupe, present hard-cooked eggs to (left to right): Solly Hemus, St. Louis Cardinal manager; Al Dark of the Chicago Cubs; Stan Musial of the Cardinals, and Bob Scheffing, Cub manager, just before a game at Busch Stadium.

Egg Promotion Launched by Hess & Clark

ASHLAND, OHIO — A campaign conducted by Hess & Clark, Inc., to boost the consumption of eggs got under way at the recent American Poultry Congress and Exposition in St. Louis.

During the three-day event 50,000 hard-cooked eggs were given away as part of "The Golden Goodness of Eggs" promotion. The eggs were produced in the St. Louis area, and were purchased from Chester B. Franz, Inc., distributor for General Mills, Inc., SureFresh Eggs.

Don Turnbull, executive secretary of the American Poultry & Hatchery Federation, commented: "There never has been another project which could match 'The Golden Goodness of Eggs' at any industry convention in the U.S."

William Jasper, director of the egg division of the Poultry & Egg National Board, said: "Hess & Clark is to be congratulated on focusing the industry's attention on egg promotion activities vital to the continued growth and success of the egg industry . . . and for getting this important story across to the people who are the egg industry's customers."

Numerous prominent local personalities were presented with gift baskets of eggs by square dancers from the Red Foley television program. Among them were Stan Musial, St. Louis Cardinals; Solly Hemus, manager of the Cardinals; Bob Scheffing and Alvin Dark of the Chicago Cubs, plus city officials and radio and television personalities.

A highlight of the television coverage of the promotion was a 5-min. description of it on NBC-TV's "Today" show. Messages were implanted in two eggs and were read by Jim Backus of Mr. McGoo fame. Hard-cooked eggs were fed to chimpanzees at the St. Louis zoo.

In addition to the gift presentations, eggs were distributed in the lobbies of downtown convention hotels, in and around Kiel Auditorium and in restaurants and other public places.

Red Foley and other members of his organization joined the square dancers in St. Louis and participated in the egg promotion. Dr. Aaron L. Andrews, advertising manager of Hess & Clark, said the campaign will get continuous promotion when Red Foley starts his second year Aug. 8 for Hess & Clark on the NBC Monitor Radio Network.

Large outdoor billboards were posted in St. Louis featuring a picture of Red Foley repeating the campaign slogan.

Poultry Gains Affected by Heat

URBANA, ILL.—The effects of hot weather on the feed requirements and gain of 6-week-old chickens was reported in the summer issue of the Illinois Research magazine.

Results of the University of Illinois' division of animal nutrition tests follow:

Chickens in an environment of 90° F. ate less and gained less than chickens in a 72° F. environment. However, the high temperature had no effect on protein or lysine requirement. When feed intake was equalized by reducing the amount fed to the chickens at 72° F., the birds at 90° F. outgained the others in terms of body weight and nitrogen balance.

Several attempts were made to increase the voluntary feed intake of birds at 90° F. Insulin injections did stimulate appetite for a while, but the use of other agents was unsuccessful.

Delmarva Broiler Marketing Heavy

SALISBURY, MD. — The national slowing down of the broiler industry, so far has not affected Delmarva.

Last week, 4,058,000 broilers were marketed in this area. The figure was 10% more than the previous week and 3% more than the corresponding week of 1958.

Since May, the national chick placement has been running about 7% behind 1958.

Hatchery Settings

Hatcherymen in the 22 important broiler producing states set 43,051,000 eggs during last week. This was 1% less than during the previous week and 5% less than the corresponding week a year ago. Settings were down from the previous week in 14 of the 22 states. The sharpest declines were reported in Georgia, Maine, Delaware and Alabama.

Broiler chick placements in the 22 states totaled 32,671,000. This was 1% below the previous week and 2% below the corresponding week a year ago. Decreases were reported in 12 states.

The largest decreases from the previous week occurred in North Carolina and Georgia. And the largest increases were in Virginia, Arkansas and California.

Broiler Chicks

Delmarva growers started 3,644,000 broiler chicks last week. This was about the same as a week earlier and 9% less than the corresponding week last year. The number started was down 17% in Delaware but was 1% more in Maryland, as compared with the same week a year ago. Settings in Delmarva were 2% less than the previous week and 15% less than for the comparable week last year.

The average price paid on the farm for broilers fell slightly in Delmarva last week. Farmers received 16.56¢ compared to 16.85¢ the week before.

5,000 Hogs Raised Completely on Concrete Is Annual Goal of New Program in Missouri

TRENTON, MO.—Skyview Farms near here has begun a new program in which 3,000 hogs are expected to be raised completely on concrete this year. The program's facilities were viewed last week by 22 members of the Swine Specialists Seminar which uses Iowa State University, Ames, Iowa, as its headquarters.

Harold Melcher, president, and Jack Miller, vice president, Trenton Foods, Inc., plan to produce the 3,000 hogs from a herd of 162 brood sows and six boars.

At present, the confiement feeding unit has facilities for 300 brood sows capable of producing an estimated 5,000 hogs. Ronald F. Cooper, manager of Skyview Farms, said the herd probably will be expanded to this size in about six months.

Leading the visitors through four clean, white buildings—two for farrowing and two for nurseries—Mr. Melcher remarked, "The significant thing about these hogs is that their feed never touch the ground from the time they are born until they are delivered to the market."

Precautions are taken to assure the farm has healthy animals. Every visitor in the group cleaned his shoes on disinfected mats as he entered the buildings, and each was given a long white coat and rubber overshoes.

The group saw 24 sows nursing large litters in one farrowing house. The sows were in steel pens that permit the pigs to reach their mothers, and at the same time prevent her from rolling on them. Electric coils are imbedded in the concrete floor a short distance from the sow to keep the floor warmer than the sow, so that her pigs have a tendency to stay away from her when not sucking—reducing the number of possible death and injury losses.

All buildings are throughly disinfected. And they are washed daily. All waste materials are treated in a sewage installation unit, and the treated matter is deposited in two sewage lagoons on the 105-acre farm.

When the temperature rises above 80°, a fine mist of cool water is sprayed from overhead nozzles.

Mr. Melcher said the system enables the owners to market their pigs in five months "and we believe we are going to be able to reduce that to 4½ months." Detailed records are kept on each hog.

The sows farrow every 114 days—and three days after a sow is weaned, she is rebred.

Sows receive 6 lb. feed daily after being bred, but the ration is reduced to 4 lb. for the next 72 days. After this, they again receive 6 lb. of concentrates augmented with oat sprouts.

Welcome from Britain

CHARLES CITY, IOWA—Dr. J. E. Salsbury will be in the British Isles when members of the National Poultry Science Assn. visit his firm's facilities Aug. 5, but he'll welcome the group to Charles City, anyway.

Dr. Salsbury will place a telephone call to Charles City from Long Eaton, England. The call will be amplified to the poultry science group just before they begin their tour.

$135,000 FIRE

WIGGINS, COLO.—Two grain elevators, an office building and a warehouse of the Wiggins Farmers Cooperative Co. were destroyed by fire recently.

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Many feed manufacturers have taken positive steps to insure against this growing risk. They've switched to Baciferm. How about you? To help you decide, get all the facts, all the feeding trial data, all the university test evidence. Let us prove to you that you gain with Baciferm, the antibiotic supplement that gives your feed "Selective Action."

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USDA Analyzes Payment Bases In Egg Production Contracts

An analysis of seven different payment arrangements for individual contract egg production programs is included as an appendix in the U.S. Department of Agriculture's recently published report, "Integrating Egg Production and Marketing" (Feedstuffs, July 25).

Contract egg production programs are one of the types of programs which coordinate the production and marketing of eggs in the U.S., and the report is of a pilot study of these programs, including interviews with coordinators in most of the important egg producing sections of the nation.

A discussion of each payment arrangement as it appears in the appendix of the USDA report, follows:

In program A, in which the producers received $200 month per 2,000 hens for all months except the first one, the units were either 2,000 or 4,000 hens. The producer provided the laying house, equipment, refrigeration facilities, bulk bins for feed, electricity for refrigeration and lights, litter, nest material, water and all farm labor. Producers also delivered eggs to the plant.

The owner furnished ready-to-lay pullets, feed, medications, egg cases and materials. The eggs were graded in the plant. Field supervisors were furnished by the company from which the feed was purchased.

No special incentive payment was included because it was believed that the best incentive for the producer to do a good job was his desire to be retained on the program in order to receive the added income.

Program B furnished producers with day-old chicks and all feeds and medications for the chicks and the laying hens. Eggs were picked up at the farm in the owner's cases and materials and graded by the owner. Field supervision was supplied by the owner.

The producer furnished all housing and equipment necessary to grow the chicks and produce the eggs. He also furnished electricity for brooding and lighting, fuel, litter, nest material, water and all farm labor.

The producer received a base payment of 6¢ doz. for clean eggs and 3¢ doz. for dirty eggs in 1958. Bonuses were provided for low mortality, high egg production and low feed consumption per hen.

A bonus of 2¢ doz. was earned if mortality from day-old to liquidation of hens was less than 15%. The bonus was decreased a half cent per dozen for each 5% increase in mortality over 15%. Thus, no bonus for low mortality was paid if death loss reached 30%.

An egg production bonus of a half cent per dozen was paid for an average of more than 220 eggs in 12 months per hen housed. An additional half cent per dozen was paid for each increase of 10 eggs per hen above this level. A bonus of 2¢ doz. was paid for an average production of more than 250 eggs per hen.

A bonus of 2¢ doz. eggs could also be earned by using less than 115 pounds of feed per hen housed from day-old to liquidation. This bonus decreased a half cent per dozen for each 5-lb. increase in feed consumed per hen. No bonus was paid unless feed consumption per hen was less than 130 pounds.

The manager reported that most producers received 9@10¢ doz. eggs.

When this program was started, producers were paid 12¢ doz. for all eggs produced. The operator believed it would be necessary to reduce the producer payment by about 2¢ in 1959.

In program C, the owner furnished day-old pullets, feed for chicks and laying hens, medications, two men to assist in vaccination of the chicks and field personnel. The eggs were picked up at the producer's farm by two buyers. These buyers furnished cases and materials and graded the eggs.

The producer furnished houses and equipment for the chicks and laying hens. He also furnished fuel, litter, water, nest material and electricity for lighting and all production labor except that furnished by the owner for vaccinating birds.

The producer was paid 9¢ doz. for grade A large eggs and 5¢ doz. for all other eggs. The owner kept a running account of costs and returns. Each producer was presented a copy of his account at the end of each month. After total costs were covered, the producer and owner shared equally in profits. In computing costs, feed was billed at regular retail prices and a markup taken on the chicks which were purchased through a nearby hatchery. Most producers did not receive a bonus.

The payments to producers on this program had also decreased. In 1956, 10¢ doz. was paid for all eggs. In 1957, payments were 10¢ doz. for large and medium grade A eggs and 5¢ doz. for all others. The 1958 pay-

(Turn to page 14)

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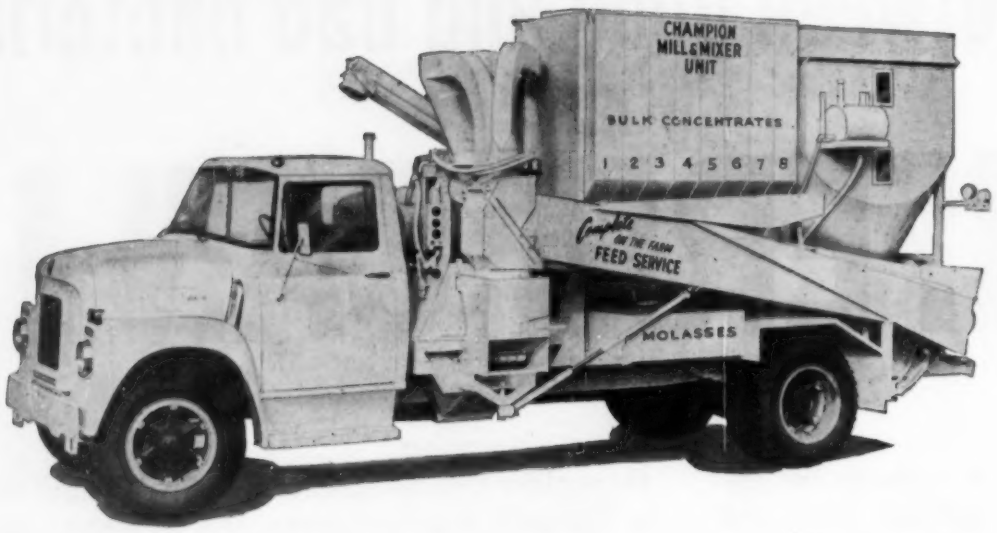

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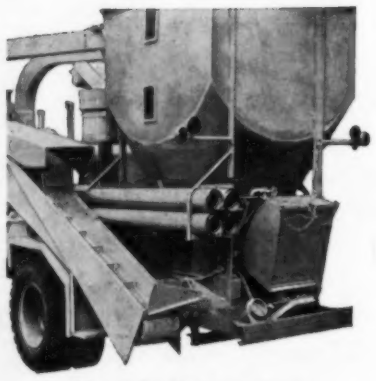

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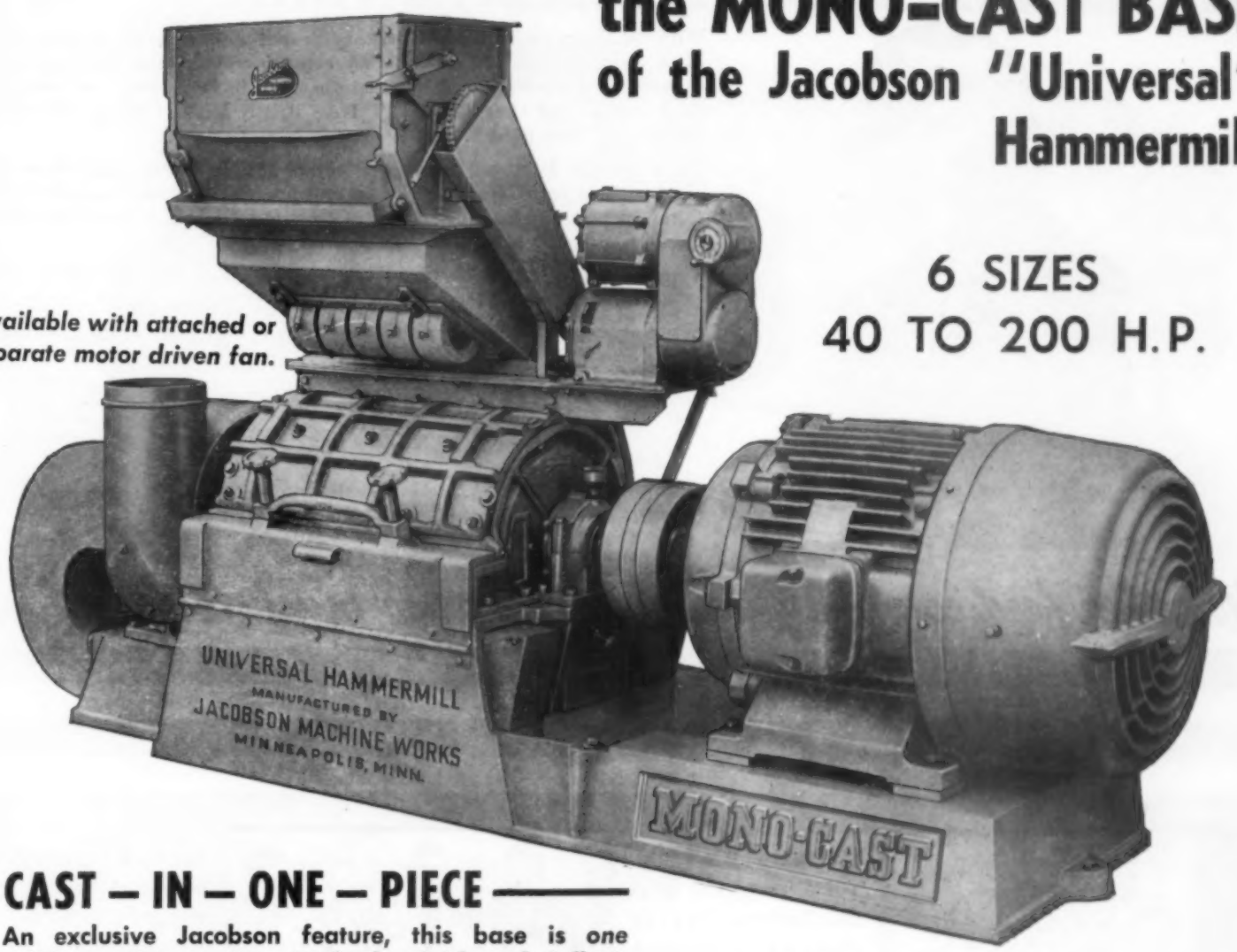

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SALES ARE THE LIFEBLOOD OF YOUR ORGANIZATION! As you know, many feed dealers today are simply not getting the sales they need to even stay in business.

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The Honegger Exclusive Package Program of fine quality products—combined with an aggressive and hard hitting program of dealer support is the secret behind the phenomenal success of Honegger Dealers. A few of the points from this program are dramatized below.

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PATRONAGE DIVIDEND gifts make real boosters of farm wives and kids. Coupon-saving customers get valuable premiums direct from Honeggers without bother or expense on dealer's part. Result: terrific customer loyalty . . . REPEAT PROFITS!

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Feed for Thought

VITAMIN A REPORT

In the current (July) issue of Poultry Science is an article which should be of interest to all in the feed industry. It deals with Vitamin A. This paper by Olson, Harvey, Hill and Branion of the Ontario Agricultural College, entitled — "Utilization and Stability of Vitamin A Supplements" (Poultry Science 38:929-942) compares various commercial dry Vitamin A products, cod liver oil and dehydrated cereal grass on the basis of availability and stability.

Among the commercial Vitamin A products tested, the palmitate in gelatin and palmitate in gelatin, starch and sugar were superior to feeding oil, cereal grasses or oil in microcrystallin wax when measured by liver storage results, when fed immediately after mixing or when feeds containing these sources of Vitamin A were stored for various periods and then fed.

In Peter Hand test work with many Vitamin A products we have rarely found a difference in availability. Most oils and dry vitamin A products are equally available. In practically every instance where a product appeared to demonstrate poor availability, a careful examination of the test showed that somewhere in the procedure a loss of potency took place because of a lack of stability. The loss occurred before the vitamin was available to the test animals.

Our work has demonstrated that the real difference between Vitamin A products is in stability. Some Vitamin A products may perform well under most ordinary conditions but lose potency rapidly when incorporated into a high mineral feed or exposed to high humidity. High temperatures or pelleting will affect others.

Peter Hand Vitamin A is palmitate in a gelatin, sugar and starch base. It is stable to air and humidity, and stands up well in pelleting or when mixed with trace minerals. It shows consistently superior performance under a wide variety of conditions.

Peter Hand Vitamin A is water dispersible and in an emulsified form which is absorbed more rapidly. Peter Hand Vitamin A goes to work faster where absorption of this vitamin has been impaired due to disease or parasitic infestation of the intestinal wall.

Physical qualities of the beadlets of Peter Hand Vitamin A enable them to remain evenly dispersed throughout the feed when subjected to mixing, bulk handling, shipping or any other rough handling. This handling causes some Vitamin A products to separate out of a mix which may result in inconsistent performance.

For consistently superior performance under all conditions — Peter Hand Vitamin A.

J. R. LINSNER
Director of Technical Services
PETER HAND FOUNDATION

Look for "Feed for Thought" every month. This popular column appears regularly in this same place (page 14) in the first Feedstuffs issue of each month.

Peter Hand

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ments were 1¢ doz. lower for large grade A eggs and 5¢ doz. lower for medium grade A eggs than in 1957.

In program D the operator furnished 16-week-old pullets, feed, medication, egg cases and materials and sanitizer-detergent. He also furnished field personnel and graded the eggs in his plant.

The producer furnished laying houses and equipment, egg washer, litter, nest material, water, refrigeration facilities and electricity for lights and refrigeration. It was also specified that he should provide good driveways, unloading facilities, all production labor and deliver the eggs to the owner's plant.

Producers were paid 5¢ doz. for all eggs delivered. In addition, a bonus based upon the best 52 consecutive weeks of production was paid. Under this arrangement it was possible for the producer to earn a maximum bonus of 2.7¢ doz. The bonus was based on a combination of eggs produced per hen housed and average number of pounds of feed consumed per dozen eggs. The maximum bonus was paid for a production of 252 or more eggs per hen and a feed consumption of 3.74 lb. or less per dozen eggs. The minimum bonus of 0.7¢ doz. was paid for an average production of 209 or less eggs and feed consumption of 5 lb. per dozen eggs.

The pullets were grown by the program operator on his own farms.

In program E the operator furnished 10-week-old pullets, feed medications, sanitizer-detergent and field personnel. Eggs were picked up at the farm and graded by the buyer. Cases and materials were furnished by the buyer.

The producer furnished houses and equipment, litter, nest materials, refrigeration facilities, egg washer, water and electricity.

The producer was paid 1½¢ pullet per week for growing the pullets from 10 to 20 weeks. Grade A large, medium and small eggs were paid for at 6¢ doz. The producer received 3¢ doz. for all other eggs.

Producers were paid a feed conversion bonus based on the period from when the birds reached 30% production until the flock was sold. The payments were:

Number of pounds of feed per dozen eggs	Bonus in cents per dozen
4.51—5.0	1¢
4.01—4.5	2¢
4.0 or less	3¢

The operator indicated that since the program was just being started it might be necessary to change the payments.

Pullets for this program were grown for the first 10 weeks on a contract basis by producers other than those on the laying flock program. The pullet growers were paid one cent per week per chick grown.

In program F, the operator furnished 20-week-old pullets, feed, medications and supervisory personnel. Eggs were picked up at the farm in the owner's cases and materials. Quality grading was done by the owner.

The producer furnished houses and equipment, refrigeration facilities, egg sizing machine, egg washer, litter, nest material, water, electricity and all production labor including that for sizing eggs.

Producers were paid 6¢ doz. for grade A large and medium eggs and 2¢ doz. for all other eggs. Pullets were grown on a restricted feeding program and did not generally start laying until they were 24 weeks old. Therefore, the number of small eggs was relatively low.

There were no bonus provisions in this program but the operator was planning a monthly bonus rather than the usual year-end bonus. Based on past production records, he believed that he would pay the average bonus for a 73% production rate and 4½ lb. feed per dozen eggs. He would move up and down from that base.

Pullets for this program were all grown on a contract basis. One group of producers grew the chicks to eight weeks. A second group of producers ranged them from 8 to 20 weeks of age. Producers in each group were paid 1¢ per bird per week. Both operations were on a year around basis.

Estimated Average Returns to Producers for Providing Labor, Facilities and Materials in Contract Production Programs, 1958

Program	Estimated average annual returns per 1,000 hens Dollars	Major facilities or services which were provided by producers but not included in all programs
A	1,175†	Refrigeration, delivery of eggs
B	1,800‡	Labor and facilities for growing day-old pullets
C	1,520‡	Labor and facilities for growing day-old pullets
D	1,290‡	Refrigeration, delivery of eggs
E	1,490‡	Labor and facilities for growing 10-week-old pullets, refrigeration
F	1,080‡	Refrigeration, size grading
G	1,395‡	Size grading

†Actual amount.

‡The following assumptions were made for programs B through G:

B. Mortality between 20 and 24.9%, 20 doz. eggs per hen, and average feed consumption per hen of 115-119.9 lb.

C. 65% grade A large eggs, 20 doz. eggs per hen, and no bonus payment.

D. 19 doz. eggs per hen, bonus based on 12 consecutive months' production of 240-245 eggs per hen and feed consumption of 4.5-4.7 lb. per dozen eggs.

E. Separate facilities for growing pullets from 10 weeks to laying age, 90% grade A large, medium and small eggs, 20 doz. eggs per hen, and feed consumption of 4.51-5 lb. per dozen eggs. Fifteen cents per hen was added for the payment made for growing pullets.

F. 88% grade A large and medium eggs and 20 doz. eggs per hen.

G. 93% clean, sound shell nonbloodspot eggs, 20 doz. per hen and producer sizing of the eggs.

In program G, the operator furnished 20- to 24-week-old pullets, feed, medications and supervisory personnel. Eggs were picked up at the farms by the operator. Cases and materials were furnished by the buyer who also did the quality grading. The operator also built a cement block egg room in each producer's laying house and equipped it with a cooling unit.

The producer furnished the laying house and equipment, litter, nest material, water, electricity and all production labor.

The producer was paid 6¢ doz. for all except dirty, checked or bloodspot eggs. He received no payment for the latter. If the producer handsized the eggs he received an additional 1½¢ doz.

There were no bonus payments in this program.

Pullets were grown on the operator's farm.

Comparisons of payment bases—A

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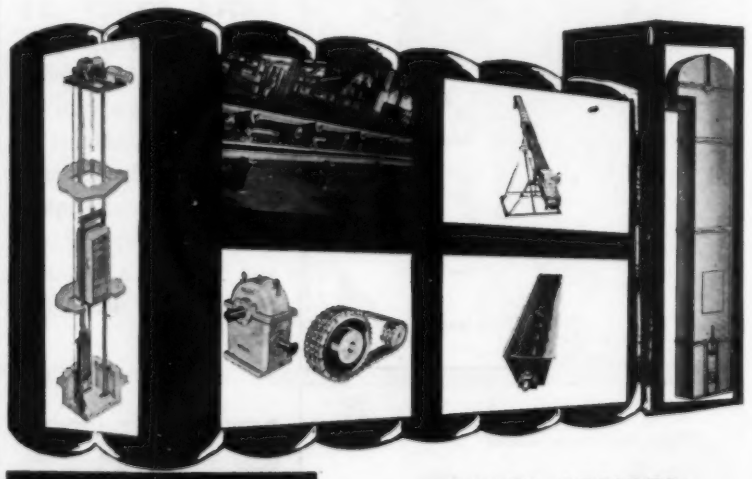

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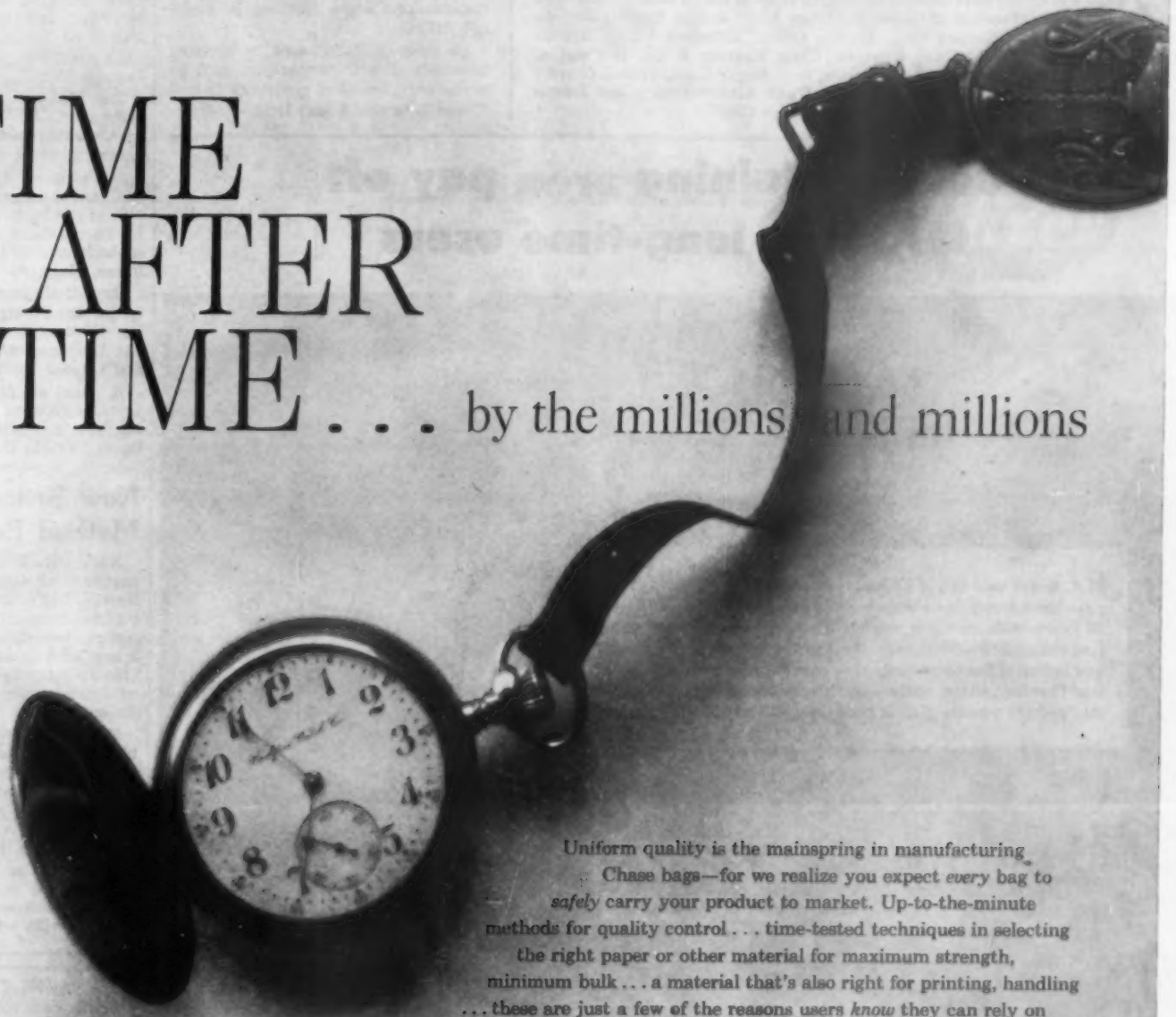

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of producers grew the chicks to eight

BOARD MEETING—Members of the board of directors of the American Dehydrators Assn. meeting recently in San Francisco are (left to right, around the table): Ralph Beerman, Beerman Bros. Dehydrators, Dakota City, Neb., and ADA president; J. B. Merryfield, Abilene (Kansas) Alfalfa Mills; Harold Spencer, Iowa Valley Milling Co., Iowa City, Iowa; Roy Elrod, Archer-Daniels-Midland Co., Minneapolis, representing the research council; L. J. Schiller, Hayward, Inc., Oak Harbor, Ohio; William H. Healey, Gothenburg (Neb.) Feed Products; Eric Mengering, Farm Bureau Co-op Assn., Columbus, Ohio; John Quirk, Morrison & Quirk, Hastings, Neb.; Robert Fulton, Archer-Daniels-Midland Co., Kansas City; Wayne Oxley, Arkansas Valley Alfalfa Milling Co., Wiley, Colo.; Einer Kuntzen, Chris Knutzen & Co., Burlington, Wash.; J. M. Schrum, Sugarland Industries, Inc., Sugar Land, Texas; Charles P. Castle, Madera (Cal.) Milling Co.; Eunice Hunt, ADA secretary, and Joseph Chrisman, ADA executive vice president at Kansas City.

more detailed study would be needed to make precise comparisons of returns to producers in the various programs. As can be noted from the description of the programs, the major variables were the age of pullets supplied, farm grading practices, egg delivery and refrigeration requirements. The major variables in payment were amounts paid and the kinds of eggs for which the payments were made. Estimated annual returns to producers per 1,000 hens are shown in the accompanying table for each of the programs. An assumed production of 20 dozen eggs per hen was used for all computations except for programs A and D. In program A, producer returns were not based on the number of eggs produced. In program D, a production of 19 dozen eggs per hen was used because producers received 16-week-old pullets.

Because of differences in services provided, direct comparisons can be made only between programs B and C and between A and D.

Soybean Groups to Meet Aug. 10-12

ST. LOUIS, MO.—Two soybean groups will meet at the Sheraton-Jefferson Hotel, St. Louis, in August. The National Soybean Processors Assn. will hold its annual meeting Aug. 10-11, and the American Soybean Assn. will meet Aug. 11-12.

Some of the speakers scheduled for the NSPA meeting include John H. MacMillan, Jr., Cargill, Inc., Minneapolis, who will speak on, "The Role of Oil Bearing Seeds in Agriculture"; Howard L. Roach, Soybean Council of America, Inc., Waterloo, Iowa, on "It's Later Than We Think"; D. J. Bunnell, Lever Brothers Co., New York, on "U.S. Soybean Oil in World Markets," and Oakley M. Ray, American Feed Manufacturers Assn., Chicago, on "Tomorrow's Demand for Protein Meal."

The National Soybean Crop Improvement Advisory Board is also scheduled to meet during the NSPA annual meeting.

Included in the ASA 39th annual convention program will be a talk on, "What the Soybean Council Has Done in Europe," by Fred R. Marti, the soybean council's regional director at Rome, Italy.

Russell Hudson, marketing specialist for the Foreign Agricultural Service, Washington, will talk on, "Market Development for U.S. Oilseeds and Oilseed Products."

A panel of farm economists and soybean growers will discuss the coming year's market outlook for soybeans to close the ASA convention.

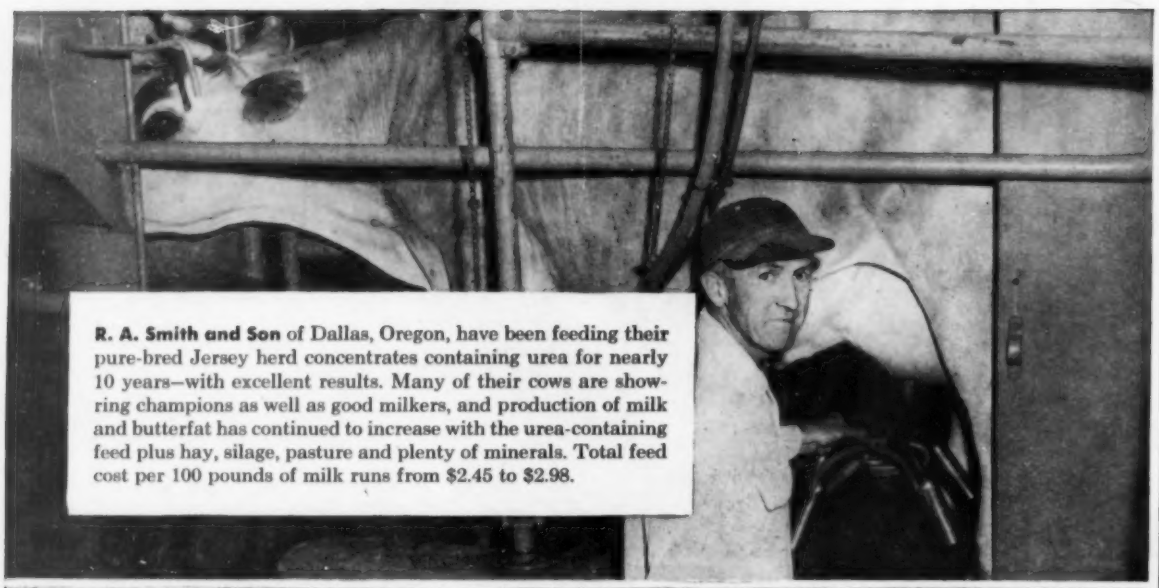
New Brucellosis Test Method Being Planned

SAN FRANCISCO—The U.S. Department of Agriculture and the California State Department of Agriculture, cooperating in a campaign to control brucellosis, plan to introduce a new testing method which will provide an inexpensive, convenient method for screening beef herds for the disease.

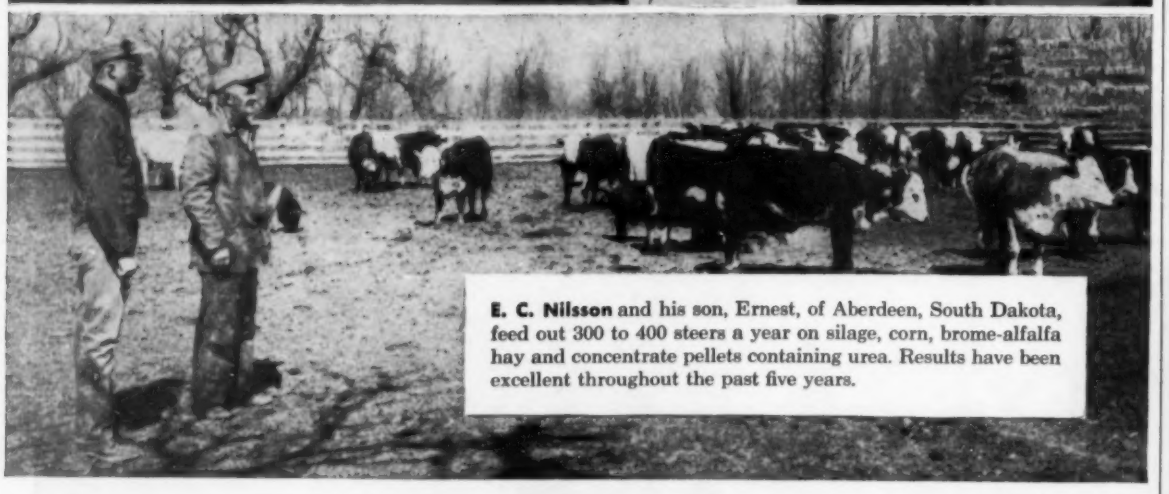
The new system is based on the blood testing of dry and cull cows enroute to slaughter or at the time of slaughter, rather than conducting tests of all the animals on the range, as at present.

Surveys are being made to determine how the new testing method can best be operated in California, and it is expected that it will be adopted within the next few months.

Feeds containing urea pay off for these long-time users



R. A. Smith and Son of Dallas, Oregon, have been feeding their pure-bred Jersey herd concentrates containing urea for nearly 10 years—with excellent results. Many of their cows are show-ring champions as well as good milkers, and production of milk and butterfat has continued to increase with the urea-containing feed plus hay, silage, pasture and plenty of minerals. Total feed cost per 100 pounds of milk runs from $2.45 to $2.98.



E. C. Nilsson and his son, Ernest, of Aberdeen, South Dakota, feed out 300 to 400 steers a year on silage, corn, brome-alfalfa hay and concentrate pellets containing urea. Results have been excellent throughout the past five years.

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Research News AND Review

A roundup of scientific information prepared for the feed industry
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Pfizer

Chronic Respiratory Disease of poultry

A sneezing bird starts it . . .

Chronic respiratory disease (CRD) in chickens was first described in 1943 (1) when natural outbreaks were observed in laying flocks. The etiological agent was isolated in embryonated chicken eggs and produced a variable mortality pattern and a diverse pathologic picture. The disease was reproducible in young chicks and mature birds when inoculated either with the egg-propagated agent or with the material obtained from naturally infected chickens. The cause of this specific disease entity was described as virus-like in nature.

Later reports of propagation of various field stains in embryonated eggs revealed that lesions produced in embryos were not as consistent in character as hemorrhages of the amnionic and yolk sac membranes.

Turkeys were found equally or more susceptible than chickens to the CRD agent under laboratory conditions. Comparative studies of CRD agent and the agent isolated from infectious sinusitis in turkeys revealed that the two agents appeared indistinguishable as determined by embryo, chicken and turkey inoculation.

Severity of the disease is influenced by climatic conditions. Frequently the symptoms were reported as appearing after exposure of the birds to either Newcastle disease or infectious bronchitis vaccines.

Natural outbreaks of the disease were readily identified by bird and embryo inoculation tests. Egg transmission of the agent among commercial flocks also was observed. Later it was demonstrated that egg transmission of the agent may be the primary source of infection for natural outbreaks of the disease (1).

Vaccination for infectious (1) bronchitis and Newcastle disease was not directly incriminated in this study as a stress phenomenon in precipitating CRD or increasing its severity in a flock. A higher incidence of CRD outbreaks among supply flocks produced by certain hatcheries was observed.

Later it was demonstrated that the spread of CRD could be attributed to egg transmission of the agent. Other reports have also contributed to the knowledge that CRD may be egg-borne.

Isolation of the CRD agent was first reported from Canada in 1951 (2). The disease was described as having a slow insidious onset accompanied by ill-defined respiratory symptoms. A virus has also been isolated which has been associated with the etiology of CRD (3). And at a later date the same workers claimed that PPLO is only part of the etiological complex of CRD and that almost all clinical cases of CRD are accompanied by PPLO infection, but the conuverse is not necessarily true.

It costs $25 million . . .

Economic importance of CRD infection of poultry has been emphasized repeatedly (4). The

Infectious sinusitis of turkeys. Top row: caseated unilateral sinusitis with extensive eye damage; bottom left: moderate unilateral sinusitis; center and right are of the same head, center, moderated bilateral sinusitis, right, lateral view of turkey showing encrustation and edema of the eye.

disease has been diagnosed in most of the important poultry-rearing sections of the United States and has also been found in other geographically widespread areas such as Israel and Australia. Within recent years the occurrence of the disease among broilers and adult fowls has been recognized more frequently. Significant economic loss has resulted in broiler-growing sections. In many areas, substantial percentages of breeding flocks are infected (5). In a limited serological survey, limited to a small number of farms, it was shown that there is an average of 80 per cent incidence of PPLO positive birds in the breeder flocks tested (6). The incidence of PPLO hemagglutination-inhibition antibodies in 320 flocks of various ages from Ontario to British Columbia of Canada was 63 per cent (7). It is conservatively estimated that losses to the American poultry industry as a direct result of CRD (8) now run to $25 million annually because of mortality, culls, prolonged feeding time and faulty carcasses of inferior quality.

Culprits by association . . .

It was shown (1) that the CRD agent could be propagated on artificial medium and because of its other properties, it has been suggested that the organisms might belong to the pleuropneumonia-like group. It was essential that the medium be enriched with serum or serum fraction to promote the growth of the CRD agent. This was subsequently shown by several workers. The CRD agent is presently referred to as a pleuropneumonia-like organism (PPLO).

Then, two Canadian workers reported the isolation of a virus which they considered to be associated with the etiology of CRD. This was followed by a report that PPLO is only a part of the etiological complex of CRD and that almost all clinical cases of CRD are accompanied by PPLO infection.

Several studies have been conducted on the organism population found in the various parts of the respiratory tract of the chicken. One group reported the differences in bacterial populations in normal and CRD infected birds (9). Regions studied were the nasal passageways, trachea and contents of pleural cavity.

The data obtained showed that there was a marked increase in bacterial numbers in these tissues in infected birds as compared with those from normal birds—on the order of 75 to 1; that there is a shift from a predominantly gram-positive to a predominantly gram-negative flora in CRD; and that this shift is due mainly to increases in coliforms.

Organism counts per gram from normal and CRD infected birds show a range of 32 to 180,000 or an average of 2,330 for the normal; and the per gram count from CRD infected birds shows a range from 640 to more than 1 million, an average of 164,000. The most striking observation was the significantly increased incidence of gram-negative organisms in the infected birds. Forty-five of the 55 specimens from the infected birds were host to species of one or more of the following genera: Escherichia, Aerobacter, Proteus, and Pseudomonas. The predominant species was **Escherichia coli** which was present in 40 of the 55 specimens.

Symptoms are only a clue . . .

When CRD becomes active in a flock the condition is characterized by nasal discharge, respiratory rales, persistent hacking cough, slow rate of spread throughout the flock, persistency of symptoms, reduced feed intake, moderate to severe decline in egg production, and body weight loss.

It is stressed that symptoms of CRD, as seen in mature chickens, cannot be easily distinguished from those symptoms resulting from infectious bronchitis and Newcastle disease. Mature birds develop symptoms sooner than young birds after experimental inoculation and are regarded as more susceptible (1).

A marked thickening of the air sac membranes and massive accumulation of caseous pus in the air sac cavities were described. This disturbance is reportedly as unrelated to other common respiratory infections in chickens, but was considered closely related, if not identical, to infectious sinusitis in turkeys.

The disease which might appear annually on the same farm can be noted in birds on the range and in the laying house, but is observed usually in the laying house.

Reportedly, the CRD agent is capable of producing specific gross lesions in embryos that are in terminal stage of incubation. Caseous exudate is observed in trachea, bronchi, and lungs. Air sac membranes are thickened, opaque, and coated with caseous exudate. The disease is readily reproduced in chickens, turkeys and eggs.

Mild to relatively severe conjunctivitis may be observed. A fibropurulent exudate coating the liver and a fibrinous pericarditis is reported (1 & 10).

The persistency, for many months, of respiratory symptoms has caused many workers to consider affected birds as permanent carriers.

Air-borne infection and contact transmission probably take place. Considerable evidence has been acquired to show that the infection, produced by PPLO, is transmitted through the egg in breeding flocks. Workers also report that after stresses, such as vaccination against Newcastle disease and infectious bronchitis, CRD frequently results. This might exemplify the persistency of the masked, low-grade type of infection which develops into clinical symptoms following stresses of climate, management and other disease outbreaks (1).

Diagnosis is involved . . .

Differential diagnosis between CRD and other respiratory diseases is almost impossible in the field. Presence in the flock of a respiratory disease with protracted course and symptoms of swollen faces in some birds is suggestive of this ailment (11). It generally requires supportive laboratory analysis in order to properly diagnose the occurrence of CRD in the flock.

IN THE LABORATORY detection of PPLO infection during life can be accomplished by tracheal cultures and by blood tests. The former is one of the better methods, but is complicated and expensive (12). There are four blood tests: the hemagglutination-inhibition test (7), and the whole blood, serum plate, and tube agglutination tests (12). A serological approach to the diagnosis of CRD is suggested by the fact that avian PPLO are able to agglutinate fowl red blood cells (rbc) and that this reaction can be inhibited by sera from birds infected with this agent (7). While this does not suggest that PPLO are involved directly in the etiology of CRD, it is evident to those engaged in work on this disease, that PPLO are almost constantly associated with this condition. Results of blood tests usually agree on a flock basis, but not on individual birds. A combination of blood and cultural tests is advisable (2).

Conjunctival lesions observed in chickens with chronic respiratory disease. Upper picture is normal control. The conjunctivas have been dissected away to reveal the hemorrhagic areas.

In the diagnostic laboratory, inoculation of chicks to observe the symptoms and the incubation period is important. Turkeys also may be used as experimental hosts. Inoculation into the infra-orbital sinus of turkeys results in sinusitis. The ensuing sinus exudate may be used to initiate embryo inoculations. Isolation of the agent also may be accompanied by using the exudate from the lower portion of the trachea from an infected chicken as the inoculum. Serological procedures may be used to aid in diagnosis.

The history of the flock, the incubation period in inoculated chicks, the behavior of the agent in embryos, the susceptibility of the turkey, and reaction of the agent to antibiotics are important considerations in making a diagnosis (5 & 13).

The inoculation of infectious material into sinuses of turkeys is followed by a typical sinusitis. This is considered by most workers as good evidence for the presence of chronic respiratory disease. The isolation of PPLO in chick embryos or **in vitro** establishes the diagnosis without question (5).

Canadian workers have offered a control plan utilizing the hemagglutination-inhibition test. This plan is based on testing breeding flocks to prevent the spread of the PPLO through hatching eggs, thus helping to select PPLO-free breeding stock (14).

It appears that the PPLO HI (hemagglutination-inhibition) test, using a single strain of PPLO as antigen, can be used either for following the course of infection in birds affected with CRD or for diagnostic work. This does not necessarily imply that PPLO are the cause of CRD. Present data supports the observations that recovered, or symptom-free, birds are still carriers of PPLO. This suggests the possible mechanism of egg transmission through persistence of the PPLO in recovered birds. However, it would be impossible to conclude that PPLO HI antibodies are a measure of immunity.

The major value of this test would appear to lie in the ability to determine the presence or absence of CRD in laying flocks, although interpretation of titers must be tempered with good judgment until further results are available as to the persistence of antibodies following infection. Results should be interpreted only when coupled with serological tests for infectious bronchitis and Newcastle disease (3 & 7).

Similar diseases compared . . .

The histopathological patterns of spontaneous and experimental Newcastle disease, infectious bronchitis and CRD have been compared (15). The differential features, based upon 79 field consignments, were restricted to the trachea and lungs. In the trachea, Newcastle disease was characterized by epithelial hyperplasia, whereas in infectious bronchitis and CRD the subepithelial connective tissue showed moderate to marked thickening due to mononuclear cell proliferation. Marked tubular prolongation of the mucous glands and hydropic degeneration of the epithelium were considered to be indicative of CRD. The mucosal thickening produced by infectious bronchitis was often ten times the normal or approximately twice the average thickening in Newcastle disease. Focal interstitial pneumonia was characteristic of Newcastle disease. The lung involvement in infectious bronchitis was restricted largely in the walls of the larger bronchi. Three types of lung involvement were found in CRD: (a) lymphoid hyperplasia, especially related to the tertiary bronchi; (b) exudative pneumonia; (c) giant-cell-surrounded granulomas. The latter reaction was considered highly characteristic but required further differentiation from aspergillosis. In the lung lymphoid response due to Newcastle disease was relatively mild compared to CRD. Visceral lymphomatosis in these organs occasionally presented a problem in differential diagnosis.

Parallel studies were made to differentiate further the overlapping histologic patterns of the three diseases by injecting isolated groups of 63 day-old chickens with the respective agents into the trachea, infra-orbital sinus, and anterior chamber of the eye, respectively. The experimental development of each disease was followed by collecting tissues at approximately three-day intervals for a two-week postinoculation period. Significant change was found in the trachea by the second day after Newcastle disease and infectious bronchitis inoculation. After the development of the characteristic inflammatory pattern of each disease, the mucosa showed restoration by the 12th day. The mucosa presented mild and transient changes in the CRD group; the response was delayed to the 5th day, and normal reversion was seen by the 9th day. No deviations from the respective field case descriptions were found in the lung, except in CRD where the response was confined to lymphocytic aggregates observed in the Newcastle disease group on the 7th and 12th days. The injected sinus presented little response to infectious bronchitis and a transient reaction with regression by the 7th day in the Newcastle disease group as contrasted to progressive subepithelial infiltration produced by CRD to the termination of the 16th day. The eye showed a sensitivity pattern similar to that of the sinus.

Management—1st offensive . . .

Observations made in the field, and investigators' inability to produce in the laboratory the entire picture of CRD as it occurs in nature suggest that various factors have a part in starting severe outbreaks—extremes of climate, lack of

be makin' any money doing farmin'

sanitation, mismanagement, or other disease outbreaks. Sometimes it seems that Newcastle disease, infectious bronchitis, and vaccination against these diseases provoke CRD. CRD may be spread to healthy flocks by introducing apparently healthy carriers as flock replacements or by putting clean and infected flocks close together on the same premises. The unusually long duration of the disease once it has gained access to a flock makes its spread more certain.

The disease may be transmitted from infected hens to the chicks through the eggs. The agent causing CRD has been recovered from young cull chicks. CRD has been observed in chicks hatched from eggs laid by infected hens and maintained in isolation about 15 weeks. Although this suggests that transmission by eggs is related to outbreaks in growing birds, the true importance of this means of spread has not been determined. The presence of CRD organism in incubator eggs that are pipped but do not hatch at the usual time indicates that incubator transmission likewise may have an undetermined part in the general dissemination of the disease.

The course and severity of CRD reflect environmental factors and the individual status of the exposed bird. Aside from the slow rate of spread and tendency toward chronicity, CRD in many respects seems similar to Newcastle disease and infectious bronchitis.

The numerous stress factors — climatic extremes, improper sanitation and management and concurrent bacterial, viral and parasitic diseases that may initiate a severe outbreak of CRD as well as the chronic nature of the disease—emphasize the need of adequate sanitation and management throughout the growing and laying period.

Birds should be raised in properly ventilated houses that provide adequate protection against extreme variations of temperature. Overcrowding should be avoided. Litter, whether fresh or built up, should be dry and crumbly. Waterers and other equipment should be cleaned and disinfected (with a two per cent lye solution) periodically. Houses should be thoroughly cleaned and disinfected after one flock has used them and before another flock is put in them (10).

Prevent CRD invasion . . .

The best way to control CRD is to keep it out of clean areas and flocks (10). Replacements should never be obtained from an unknown source or from a flock with a recent history of respiratory disease because of the danger of obtaining an apparently healthy carrier. Baby chicks should be obtained from a reliable hatchery where healthy breeder flocks are maintained under constant supervision. They should then be raised in isolation. Eggs from flocks showing any active respiratory infection should never be set.

The numerous stress factors that may initiate a severe outbreak of CRD as well as the chronic nature of the disease emphasize the need of adequate sanitation and management throughout the growing and laying period.

CRD can be eradicated by marketing the entire flock immediately. If conditions favor less drastic methods, the flock should be kept well isolated and all birds known to be infected should be removed. Identification of infected birds is usually accomplished by physical examination of all birds in the flock and in a limited number of instances by the use of experimental blood tests. Unless extremely valuable birds are involved, the rest of the flock should be marketed as soon as that is possible. In either instance, the entire premises should be cleaned thoroughly and disinfected before new birds are bought.

A program preventing the parent-to-chick transmission of CRD associated with PPLO infection has been worked out.

Antibiotic injected into parent stock inhibited transovarian passage of PPLO for a period of 14 days commencing nine days postinoculation (6, 16 & 17). The offspring of these injected parents were brooded in small separated units, some on one farm. Vaccinations for infectious bronchitis and Newcastle disease were carried out at seven weeks of age—to arouse the CRD complex if it was present—using vaccines made from eggs of PPLO negative breeders. The response was very noticeable and lasted about two and one-half weeks. No birds died. Blood tests were taken at monthly intervals and all samples to date have been PPLO negative. These birds at the time of the report were 38 weeks old.

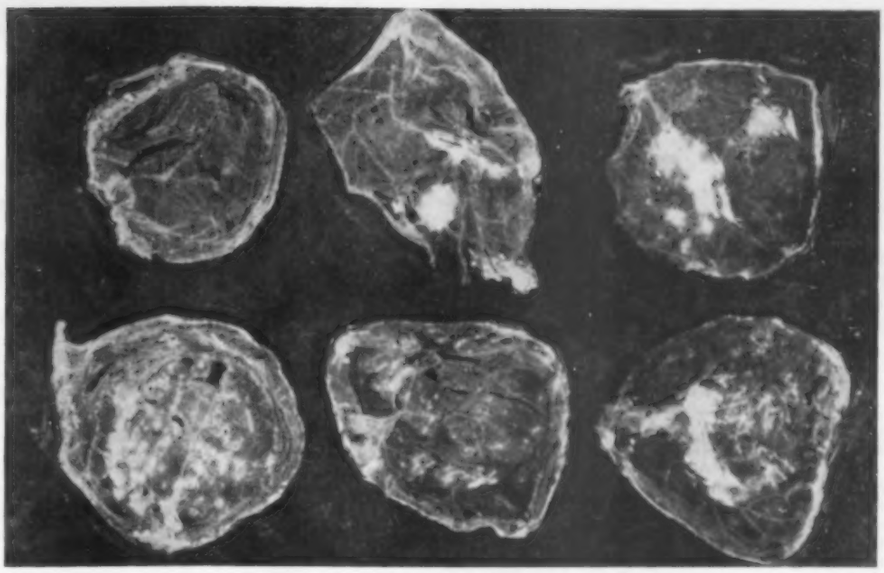
The offspring of the negative parents were blood tested at day-old and were negative at that time.

It is interesting to note that in previous tests of parents and offspring, PPLO positive breeders produced PPLO positive chicks at day-old. These trials show that PPLO negative breeders produce PPLO negative chicks at day-old, thus substantiating the evidence of parental transmission.

Treat birds that have it . . .

Many investigators have concluded that PPLO play an important role in CRD of chickens and infectious sinusitis of turkeys. It has been stated that both diseases—CRD and infectious sinusitis —are caused by the same agent.

Sixteen antibiotics were tested for their **in ovo** chemotherapeutic activity against the agent of infectious sinusitis and CRD. They found that only magnamycin, terramycin, aureomycin and streptomycin showed definite activity against the infective agent and concluded that magnamycin and terramycin were the most effective. The result of **in vitro** sensitivity tests on an avian strain of PPLO was reported and it was found that the drugs were effective in the following order of diminishing activity: magnamycin, terramycin, streptomycin, aureomycin, chloromycetin, neomycin and penicillin. They stated that magnamycin, terramycin, streptomycin and furazolidone were capable of destroying PPLO. Another group reported the effect of antibiotics and chemical agents on PPLO of avian origin. They stated that tetracycline and oxytetracycline were the most active antibiotics tested **in vitro,** while erythromycin and viridogrisim were the most effective drugs **in ovo.**



These lesions were observed with avian viruses: from top left, normal chorioallantoic membrane, infectious laryngotracheitis, fowl pox; from bottom left, chronic respiratory disease virus of chickens, chronic respiratory disease virus of ducks, and chronic respiratory disease virus of turkeys.

In vitro, oxytetracycline, magnamycin, and erythromycin were effective in inhibiting the growth of all the four PPLO strains under test. The concentration of the antibiotic required to inhibit the growth of the organisms includes: 0.5 to 50 mcg. per ml. for oxytetracycline; 0.09 to 3,000 mcg. per ml. for erythromycin; 0.5 to 100 mcg. per ml. for magnamycin. The wide ranges were the ranges needed to inhibit growth of the different mortality of the embryos with 90 and 88 per cent protection, respectively, at the 1 mg. level (18).

The effectiveness of an antibiotic increasing the survival time of embryos is in the following order of diminishing activity: erythromycin, oxytetracycline, magnamycin, chlortetracycline, streptomycin, and hygromycin.

In vitro, oxytetracycline, magnamycin, and erythromycin inhibited the growth of four strains of PPLO at different concentrations in another study. The microbiocidal activity of these three antibiotics was maintained at a much lower concentration for a period of 10 days than that of three other antibiotics (18, 19 & 20).

In experimentally induced CRD in chickens, mortalities by four weeks were: positive control, 54 per cent; treated with 500 gm. oxytetracycline, 2.5 per cent; the other treatment groups which included penicillin at 500 gm. per ton d d not differ significantly from the positive control. Incidence of severe lesions was similarly distributed among the groups. The average four to eight-week gains of surviving birds were significantly higher for the negative controls and the 500 gm. and 100 gm. oxytetracycline groups than for the positive control group. Weight gains in all other groups did not differ from that of the positive controls (21).

or, Learn to live with CRD!

When the complexities of developing a prevention and control program are fully realized by the commercial flock owner, the result with many has been to "learn to live with CRD" in their flocks.

Supportive of this philosophy is the recent report by workers in this field. During a 40-week period the antibiotics—terramycin, aureomycin and penicillin—as supplements to an all-mash ration, at a level of 100 gm. per ton, have been fed to laying pullets suffering from a natural infection of chronic respiratory disease. Egg production was increased through the use of two antibiotics as compared with the control pullets. Average egg production for the various groups of pullets was: controls, 34 per cent; terramycin, 52.3 per cent; aureomycin, 49.9 per cent; and penicillin, 41.8 per cent. In only the terramycin and aureomycin supplemented groups were the increases in egg production statistically significant. When fed the antibiotic, feed required per dozen eggs was reduced, mortality reduced and body weights of pullets increased during the experimental period. Chronic respiratory disease symptoms were markedly relieved in all groups of birds fed the antibiotic, while respiratory symptoms persisted throughout the period among the pullets of the control group (22).

For additional copies of this article, write to Chas. Pfizer & Co., Inc., AGRAData, Agricultural Research & Development Department, Terre Haute, Ind.

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did the internal combustion engine. This statement was made by Earl D.

ing to speed up operations until we'll be jumpin' around the farm like ro-

cleaned by a sweeping broom would be incorporated into their living

JOE BROOKS

BY AL P. NELSON

You Can't Stop Progress

Pete Zielke came in from his barn chores, ate a good supper, and then sat in the living room reading a daily newspaper.

His portly wife, Anna, watched him from the kitchen, smiled to herself and then went on to do the dishes. By the time she had finished, Pete was just about through with the newspaper. Mrs. Zielke took a folded copy of the Hansen's Creek, Poultry, Butter & Egg Gazette and carried it with her as she approached her husband. The paper she carried was the local weekly.

"Earl," she said, "you look pretty tired. Don't you think it's time we invested in a pipeline system of milking? Carrying those pails of milk from the stalls to the bulk tank and dumping them in is heavy work. We've got 40 cows, and you and the hired man have plenty to do anyway."

"Huh, you tryin' to make me spend more money?" spoke up lean, tanned-faced Zielke. "Farming costs are high enough now. I'm 50 years old. I don't want to invest any more money in anything. I want to build up a fund for retirement."

"You got 10 years to do it," said his wife, "and if I know you you'll decide at 60 to farm until you're 65. And at 65, you'll want to stay farmin' till you're 70, if you're able."

"Woman, you know too darn much about me," replied her husband. "I'll admit I like farmin', but I'm German and thrifty. I don't like to spend too much."

His wife laughed. "You don't have to worry about that—ever—not you! You hate to owe a penny. That's why we buy everything for cash, or we don't get it. You don't owe anything on the farm, the equipment or the livestock. Now I think it's time for you and me to get smart."

"Smart! What do you mean?"

"I've been reading Joe Brooks' latest ad in the Hansen's Creek newspaper," his wife said, "and it got me to thinking."

Her husband grunted. "That fellow is always printing new ideas. Why doesn't he rest a little and give us some rest? Remember, his purpose is to sell more feeds and farm supplies. That's why he advertises."

"What do I care what his purpose is," said his practical wife, "so long as what he says is something that can make farmin' better and more profitable for us? If he hadn't urged us we wouldn't have bulk feed here, or bulk milk tanks. And he helped me get a start on a 2,000 hen laying flock that's made money for us the last two years."

"Well, I don't care what idea Brooks has now. I'm sittin' tight. I'm not buyin' anything else right now."

"You don't have to buy anything. All you have to do is listen to this ad, and then think. And let's talk things over. If these changes come before we retire we'd better consider some of them, otherwise, we won't be makin' any money doing farmin' the old way."

Pete Zielke looked s h o c k e d. Changes? What do you mean, woman?"

His wife began to read from Joe Brooks' ad:

"To those who farm and us who supply farmers. We all know that some rapid changes have come to agriculture in the past 10 years. Mechanization and better feeding have revolutionized agriculture. Now let's take a look at what engineers say can happen in the next 10 years. Then let's get ready for the changes that might affect us."

"Oh, there's Brooks spouting off again," broke in Zielke. "Why doesn't he sit still and be content with things as they are for a year or so?"

Can't Sit Still

"Nobody can afford to sit still nowadays, Peter, you know that," said his wife. She continued reading, "The electric motor will play as big a part in the farming revolution as

You can sell best

...and customer satisfaction "comes in Burlap!"

Have you ever added up the inducements you can offer when you sell sacked feed in burlap? They can help you in selling. Here they are:

1. *A discount* on every ton of feed, when the mill provides a return-bag program.
2. *Simplified inventory* for the customer.
3. *Identification* for medicated feeds.
4. *Non-separation* of formula-ingredients.
5. *Your prices* are competitive with returnable burlap bags.
6. *Service*...you can give small customers as good delivery service as large customers (and on the same route).
7. *Bulk customers* can be served with bag-to-bulk trucks.
8. *Quantities* can be bought *as needed.*
9. Feed in burlap bags is *sanitary and free from contamination.*
10. *Accurate weights* are assured in a burlap bag.
11. *Fifty-pound* as well as 100-lb. bags can be offered.
12. Farmers have many uses for empty bags...only burlap serves them so well!

Quite a few selling-points, don't you agree? Next time you're selling a new customer, remember there's a lot to be said for burlap bags!

Just ask your own customers—they'll tell you that burlap

Is strong — takes dragging, dropping, *man-handling* — any tough job on the farm.

Laughs at sudden showers — wetness or dampness can't weaken it.

Saves money — extra value from re-sale and re-use.

Gives good ventilation — keeps farm supplies and products fresh.

Saves storage space — stacks to any height without slipping.

Has 1000 uses — always in demand on the farm (popular with farm wives, too!)

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did the internal combustion engine. This statement was made by Earl D. Anderson, president of the American Society of Agricultural Engineers at a summer meeting of the Society held at the University of California.

"Relating the changes wrought in the farmers' work day by the internal combustion engine to those developing through use of electric motors, Anderson said, 'The farmer who steps down from a tractor equipped with finger tip control of the hydraulic mechanism is loathe to feed his cattle with a bushel basket.'

"Dozens of new adaptations of electricity to the farm were forecast by the engineers at the meeting. Feeding time on poultry ranches will be reduced from 26.7 minutes per day per 1,000 birds to 7.3 minutes. Egg gathering will be cut from 55 minutes per day per 1,000 birds, to 35 minutes. Furthermore, use of this time saving equipment will save the operator $300 per year per 1,000 birds.

"Huh," broke in Zielke. "All these fellows who work night and day trying to speed up operations until we'll be jumpin' around the farm like robots give me a great big pain in the—"

"Peter!" warned his wife. "Be careful what you say! And don't be stubborn. You can't stop science. You can't hold back progress. Either we follow suit or become back numbers and maybe have to give up farming. Listen to the rest of this story in Joe Brooks' ad."

She raised the paper toward the light and continued reading.

"Completely automatic housing and feeding facilities for hog production were predicted. Summer temperatures would be controlled so that they wouldn't rise above 80° F., the temperature above which average gain and feed efficiency drop off.

"The electric motor's adaption in the feeding of hogs would include automatic feed delivery when the trough runs low, and automatically metered pre-mixed feed. For those gymnastically inclined porkers an exercise area that is automatically cleaned by a sweeping broom would be incorporated into their living quarters. Should a failure occur anywhere in the automatic system, a warning light would go on automatically."

She hesitated, and her husband asked, "Is that all?"

"Well, Joe does say that while the fully automatic age is not here, we should prepare for it, and that he can help us. He already has pipeline systems, sells and delivers feed in bulk if customers want it, has automatic watering devices and water heating systems, and that he'll be glad to come and talk to farmers about these and cost cutting feed management practices."

"So he can sell more, eh?"

"Perhaps, Pete. But if you and I plan to stay on the farm we should do more thinking about this automatic trend and investigate these new practices as they come along. We can produce more and cut labor, and what's more important, you and I won't wear out and die so young—we hope."

"And we can stay on the farm longer, eh, before retiring to that darn confined town life?"

"Why not? By that time maybe this area will have a cow pool—like they have in Iowa where they house the dairy cows, feed and care for them, charge a small management fee and then give us whatever profit is left. Then we can crop our farm, get some income there and also get dairy profits, with no cows on our land."

"Woman," said her husband proudly and also a little enviously, "you're the thinker in this family."

"I am not," she said vigorously. "You are. You've been talking farmin' so long, I got most of my ideas from you. You trained me, Pete. If you would take the time to think real hard again, you could pass me without half tryin'."

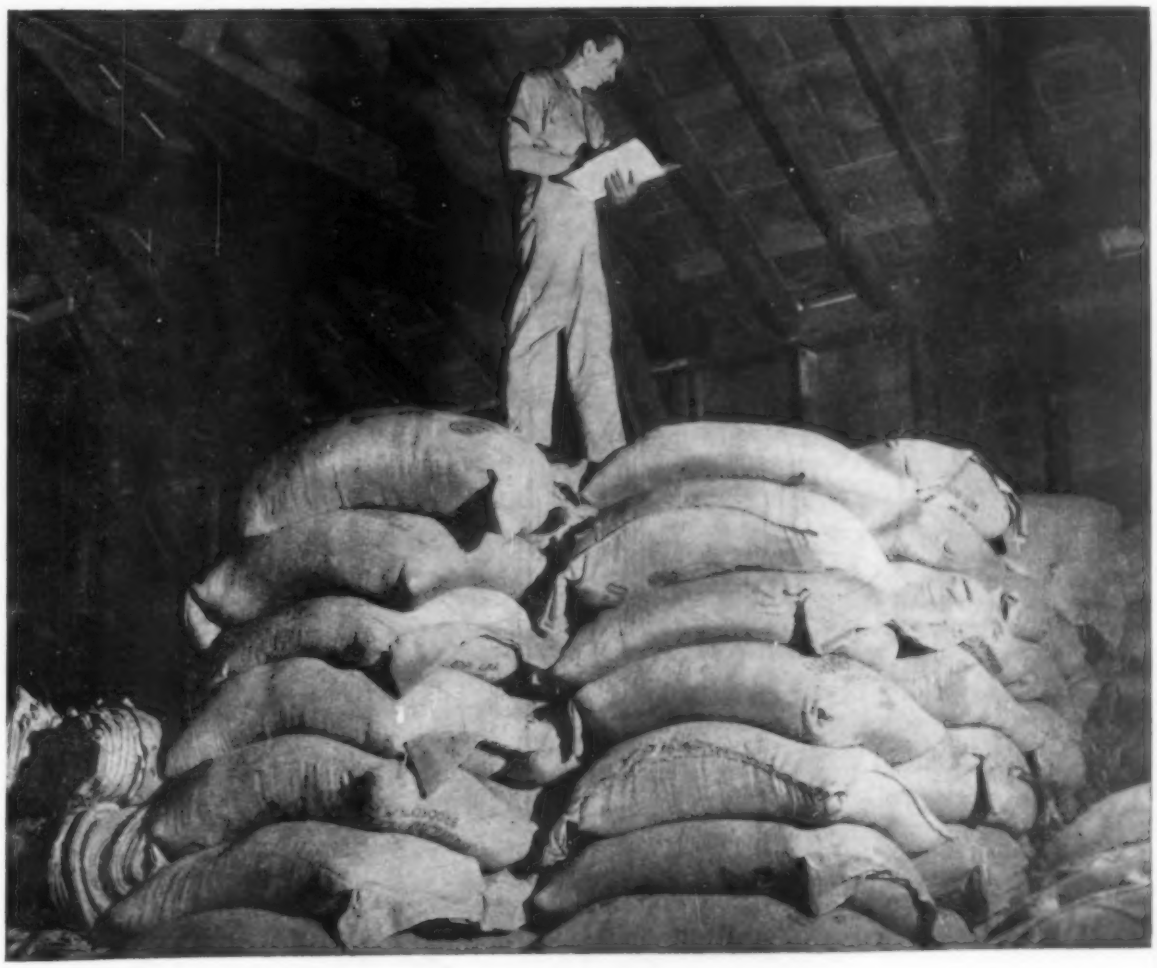
Her husband chuckled. "Well, maybe I could," he said, straightening in his chair. "I always was real smart in school. Two teachers said that. Yep, we make a good pair, Anna. We'll do some thinkin' about the future, from now on—you and me. And we'll pester that Joe Brooks with so many questions we'll make his head swim. You watch and see."

"Need any help?"

Salesman Appointed

CHICAGO—Donald W. Rauch has been appointed midwestern sales representative for the multiwall bag line of Continental Can Co., according to Dean P. Stout, general sales manager of the company's Containerboard & Kraft Paper division. Mr. Rauch, who will maintain his headquarters at the division's Chicago office, has seven years experience in the multiwall bag field. He worked previously for Union Bag-Camp Co. in the same territory.

what serves best!



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IDEAS TO HELP YOUR CUSTOMERS

Protein for Pigs

Failure of swine producers to recognize the fact that pigs require a certain amount of good quality protein to grow and make efficient gains has cost them money, according to Dr. H. D. Wallace, associate animal husbandman, Florida Agricultural Experiment Station.

Because protein feeds are the most costly part of a ration, Dr. Wallace says many producers are reluctant to buy protein supplement when it is needed.

He says insufficient protein interferes with the utilization of other ingredients in the ration and increases the amount of corn or total feed needed to fatten a pig. "Inadequate feeding," Dr. Davies comments, "is the cause of much of our pig losses in Florida, and insufficient protein is undoubtedly a major factor in this averall problem."

The amount of protein needed by pigs depends on their size and whether or not forage is available. The smaller the pig, the more protein he needs. In rations well fortified with vitamins and antibiotics, 14% protein is adequate from weaning to 75 lb.—but 16% is better for average conditions.

As the pigs get heavier, the level of protein should be reduced, Dr. Davies says. From 75 to 125 lb., 14% is adequate, and from 125 to 200 lb., 12% is enough for efficient conversion of feed to body weight.

When excellent forage is available, he says, the protein percentage may be reduced about 2%. Pasture still is highly recommended for sows. Cost of growing forage for fattening pigs often exceeds the value of feed replaced.

◆

Zinc and Calcium

Poultry nutrition studies at Texas A&M have confirmed the belief that practical poultry feeds should contain a supplement of available zinc and have shown that calcium interferes with the absorption of certain antibiotics.

R. E. Davies, assistant professor of poultry science at Texas A&M, reports that it has been found that poultry feeds do not contain enough zinc in a readily available form for chickens. And several researchers have shown that blood levels of Aureomycin and Terramycin may be greatly increased if the calcium content of the feed is decreased.

Prof. Davies says the main reason zinc deficiency is not widely observed is that galvanized water and feed troughs, especially after they are worn and rusted, contaminate the water and feed with zinc. The use of new galvanized troughs or of plastic equipment reduces or eliminates this supply.

Zinc-deficient broiler chicks gain weight less rapidly and have brittle, broken feathers which reduce their market value. Prof. Davies notes that egg production of replacement pullets has been delayed as much as 50 days by experimental zinc deficiency. He recommends that the producer add a quarter of a pound of zinc sulfate or an equivalent level of other zinc salts to a ton of feed to guarantee that no zinc deficiency will occur.

Because calcium is vital in a poultry ration for development of bones and egg shells, reducing the amount fed to improve antibiotic absorption leads to a special problem. Prof. Davies says two possible solutions to this problem are feeding special low-calcium, high-antibiotic feeds for one or two days when disease strikes, or substituting some less-available calcium salt such as sulphate for a few days.

Prof. Davies advises the producer not to attempt to cut down on drug

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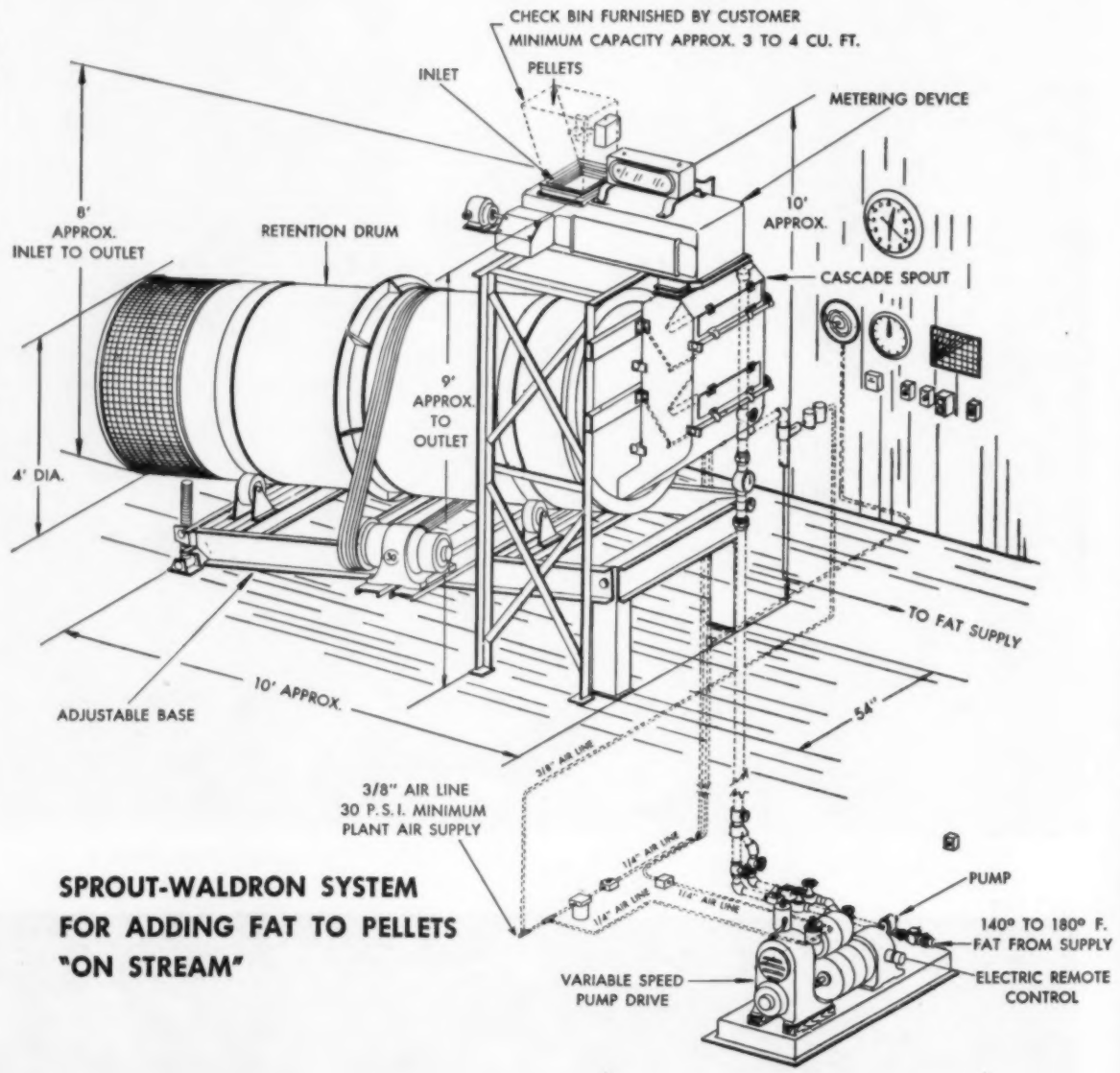
Two basic SPROUT-WALDRON



SPROUT-WALDRON SYSTEM FOR ADDING FAT TO PELLETS "ON STREAM"

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costs by simply feeding low-calcium diets. And he also suggests obtaining the advice of a veterinarian or a nutritionist before using potentially dangerous low-calcium treatments.

◆

De-Winging Pros, Cons

De-winging is a technique over which poultrymen are divided pro and con. And because of the factors for and against the practice, any egg producer contemplating de-winging his chicks should ask himself this question: "Will de-winging handicap the birds in any way in my system of management?"

In a new publication of the University of Nebraska College of Agriculture, "Should the Wings Go?" J. L. Skinner, extension poultryman, defines de-winging as the process of removing the outer joint of one wing on day-old chicks.

He explains that, currently, the most used de-winging device is an electric resistance wire about four inches long. The wing is drawn across a red-hot wire, which severs the joint and cauterizes the points of severance. Nebraska hatcherymen, he says, are de-winging 6-8% of the pullets they sell when a day old.

Mr. Skinner notes that advantages derived from the technique apply mainly to the period when the pullet is growing, and disadvantages appear principally during the egg production period.

Pros and cons of de-winging listed by Mr. Skinner include the following:

FOR—

- Eliminates flying.
- Eliminates roosting in trees.
- Saves labor, as birds are easier to catch and handle when vaccinating, culling, etc.
- Birds are somewhat quieter.

AGAINST—

- Birds may refuse to use nests or roosts.
- Birds may injure feet upon descent from nests or roosts.
- Cut surface easily injured later in life.
- Some mortality may result from shock of operation.

◆

Pink Eye in Cattle

Although pink eye can infect cattle at any time of the year, it is principally a warm weather condition—and now's the time for feeders to be on the lookout for signs of the contagious disease.

Dr. F. A. Hall, extension veterinarian, Purdue University, says a watery discharge from the corners of the affected eyes and inflammation of the eye lids are the first visible indications which should alert the dairyman or beef producer. Severe attacks may result in cloudiness followed by ulceration of the eye ball. Pain associated with the condition causes the animal to squint and the fever results in a decreased appetite.

Dr. Hall reports that germs of the disease can spread by direct contact with affected animals or indirectly by way of flies, insects and dust. The disease usually appears on a farm after the introduction of feeder cattle or after newly purchased animals are added to the herd. The disease then spreads rapidly to any susceptible cattle.

It's a good idea to segregate newly acquired animals for 10 days or until the danger of infection is passed. If the disease does appear in a herd, the affected cattle must be separated and placed in a darkened area and allowed to graze only at night, because light, dust, pollen and insects seem to aggravate the condition.

Dr. Hall notes that chaff or beards of grain in an eye causes symptoms resembling pink eye. Therefore, it is necessary to have an accurate diagnosis made to determine the exact condition, followed by proper local treatment under the supervision of a veterinarian.

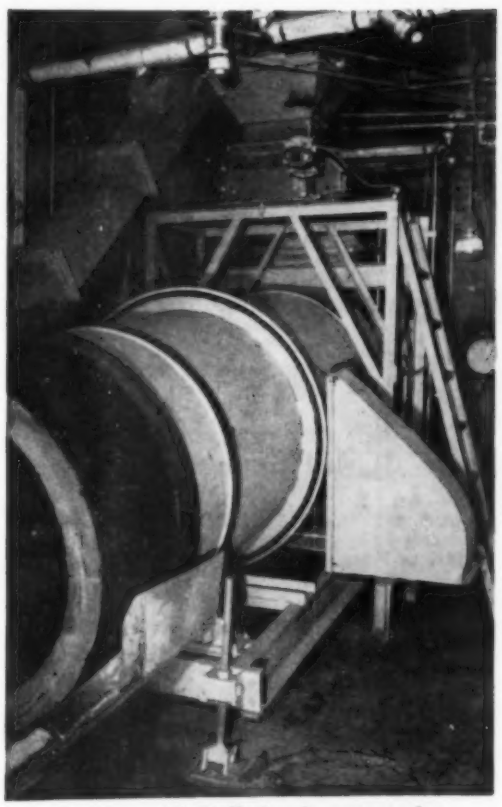
RETAILING OF TURKEY PARTS INCREASING

COLLEGE STATION, TEXAS — Retailing of fresh and frozen turkey parts is gradually increasing in Texas stores, according to Dr. R. E. Branson, Texas Agricultural experiment station. At least one regional food chain has found a ready market for the product. Inadequate supplies, he says, rather than lack of consumer demand, have been the main problem.

A survey of shoppers at a Texas supermarket handling turkey parts showed that they are steady users of the product. More than half the shoppers interviewed served turkey parts 3-5 times a month, says Dr. Branson. The turkey is sold in many new forms such as parts, steaks, cut-up and in patties.

Retail food stores and processors are increasing their interest in year-round merchandising of turkey in these several forms. These new merchandising methods should be of interest to those food dealers desiring to maximize their share of the expanding market for this product, Dr. Branson added.

FAT ADDITION SYSTEMS are available



"On stream" installation in progressive feed manufacturing plant.

Here are two proven methods of accurately controlling the addition and even distribution of up to 10% fat to feed pellets, at rates ranging from 4,300 to 60,000 lb. per hour.

These systems are available in: OS - "on stream" and OB - "on bin." Each is custom-designed for specific application involving rates as low as 4,300 and as high as 60,000 lb. per hour. The "OS" or "on stream" system is required whenever it is necessary to add fat to pellets on a continuous basis as they discharge from the cooler or grading shoe.

Method of Operation

In both systems, good hard pellets pass through a cascade spout, receiving a controlled addition of fat as they tumble in front of the spray manifolds. They then move by gravity into the large retention drum. The drum rotates slowly, giving adequate time for the pellets to cool and absorb the fat. At the discharge end of the drum, the pellets pass through a scalping screen where any agglomerates are separated and discharged. When percentages of more than 5% are being added, the pellets drop into follow-up retention bins to allow longer penetration time.

Advantages of the S-W Systems

(1) The S-W method starts and finishes with good hard pellets; (2) the percentage of fat added to the pellets is easily controlled; (3) the system has a wide capacity range; (4) a fat meter carries a running total to assist the taking of a periodic inventory; (5) the cascading of the pellets assures uniform fat coverage; (6) a wider selection of fat mixtures is possible because the fat is added to finished pellets, rather than mixed in the mash; (7) controlled fat addition from 1 to 10% is assured; (8) the retention drum produces a minimum of fines because of its baffles and low speed; (9) the system can economically be expanded from low capacity to high capacity.

For complete details write for Advance Specification Sheet 207 and Bulletin F-40.

MODEL "OB"

When a bin is installed above or near enough to the system to use mechanical feeding equipment such as screw conveyors or belt feeders . . or when a new mill is being designed, the "on bin" is preferred.

MODEL "OS"

When a bin is not located close to the fat addition system and where the system has to receive a direct discharge from the pellet cooler and grading shoe, the "on stream" system is recommended for the best results.

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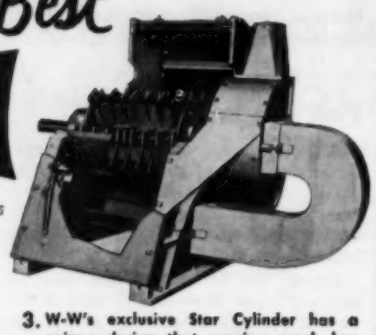

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Model	HP	Feed Opening	Price *
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F-29M Goosenock	100-150	36"	$2183.98

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Georgia Swine Industry Is Revolutionizing

TIFTON, GA.—Revolutionary changes are taking place in the swine industry at Georgia, specialists pointed out at the Swine Growers Field Day recently at the Georgia Coastal Plain experiment station, Tifton. The Georgia Swine Growers Assn. sponsored the meeting.

F. M. Stewart, Shellman, president of the Swine Growers Assn., pointed out in the meeting that the swine industry in Georgia is valued at 60 million dollars, but added that "we are going through revolutionary changes."

J. W. Fanning, head of the agricultural economics department at the University of Georgia, said one of these changes is more vertical integration.

Mr. Fanning said that some processors are going into the hog raising business themselves. He added that there are about 100 integrated swine units in Georgia involving 40,000 hogs. He predicted that there would be five or six times this number in this pattern within the next two or three years.

Integration is having a tremendous impact on the swine industry, Mr. Fanning said. He said it is encouraging increased production through application of best management practices, and acceptance of counseling by the farmers.

Mr. Fanning said integration is bringing about increased volume per farm, thus increasing size of operations; causing farmers to arrange multiple farrowings, with more even distribution through the year; bringing increased volume of swine sold directly to processing plant, and causing more standard production of meat, more of the quality that people want, and more part-time farmers.

The economist pointed out that Georgia had the biggest pig crop in history in the spring of 1959 and would have another big crop in the fall. He said the hog farmer who stays in the business will have to be able to weather the downward price cycles that come.

Trends in Swine

Dr. R. A. Long, Athens, animal husbandry division of the University of Georgia, who spoke on "Trends in the Industry," said the trend is toward larger production units, more confined feeding (in hog parlors) and more efficient operation. He said larger operations are in line with the packer's desire for a uniform supply of hogs all the year around. He said the packer also likes to get uniform kind and quality of hogs.

"The feed manufacturer wants the same kind of operation, because he likes to have the same demand for feed all the time," Dr. Long added.

To be successful, Dr. Long pointed out, the hog producer must use the latest system in breeding and feeding, must keep himself informed, must maintain complete and accurate records and use them; must test his breeding stock for rate and efficiency gain; and must produce hogs with minimum fat and optimum lean.

Dr. Long said the trend is toward larger litters, backed up by top management which includes good sanitation, parasite control and best care of sows and litters.

Certification

The value of certification of breeding stock was brought out by Dr. W. C. McCormick, associate animal husbandman at the Coastal station. He explained that one test on 48 pigs from seven breeds has been completed, and another test is under way.

A boar test is under way with eight boar units. The boars meeting certain standards may be certified and offered for sale by the owners, Dr. McCormick said. By getting these certified animals, producers can improve their breeding herds, he said.

Poultry Integration In Maine Criticized

BELFAST, MAINE — Integration has resulted in a "great crisis" in Maine's poultry industry, Rep. Frank M. Coffin (Dem., Maine) told poultrymen who attended a luncheon at the annual Maine Broiler Festival recently in Belfast.

"In practically every segment of the poultry industry," he declared, "integration is squeezing out the small and medium operators. Substantial variations in price, with increasing pressure on those with limited capital resources, are accelerating the trend toward integration, and the entry of large feed companies and chain stores into integrated poultry secondary to profit considerations in feed, distribution and retailing."

Urging united action to preserve competition, the Congressman added, "No sane poultry farmer will allow the bigger hens and roosters to peck the rest of the flock to death. It may represent the survival of the fittest of the brood, but it doesn't make economic sense."

Mill Supervisor

FT. WAYNE, IND.—The promotion of Earl Edmonds to feed mill supervisor at its Gibson City, Ill., plant has been announced by the Central Soya Co., Inc., Ft. Wayne. In his new position, Mr. Edmonds will assist the feed mill superintendent in carrying out his responsibilities for feed manufacturing.

Mr. Edmonds joined Central Soya at its Gibson City plant, and has worked in various production capacities throughout the feed mill operations. In 1958 he was promoted to pellet foreman.

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PACKAGE POWER—"Electric Yellow" is the best name for the color of Kraft's new packages...the new look for this full line of money-making milk by-product feeds. Note high identification power (how one package "sells" another) . . . and the clean, dust-free look.

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PROFIT POWER—The sales-building combination of new packages and full line gives you plenty of the power that really counts . . . profit power. The power to earn better profits for your customers, better sales and profits for yourself. And the power-behind-the-power . . . Kraft. The name "Kraft"—America's great producer of milk products and milk by-products—assures your customers you sell the best.

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PEX CONDENSED. In semi-solid form, ideal for moist feeding . . . palatable to birds even under stress conditions.

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KRAYLETS PLUS 2. For baby pigs. Milk by-product pellets with antibiotics and vitamin B_{12}.

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PEX PREMIX. For all poultry feeds, a combination of milk by-product and other supplements—in free flowing powder form.

PEX CONDENSED FOR MIXING. Semi-solid milk by-product ingredient for all poultry feeds.

PEX CRUMBLES. For convenient mixing in all your poultry feeds.

KRAYLETS PREMIX. For hog feeds; composed of milk by-products, antibiotics, and other supplements to simplify mixing.

KRAYLETS CONDENSED FOR MIXING. In semi-solid form for hog feeds.

KRAYLETS CRUMBLES and KRAYLETS PLUS 2 CRUMBLES. Also offered—for handy mixing with all your hog rations.

KAFF-A BOOSTER CRUMBLES. For all your dairy and beef feeds.

CONTINUOUS

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Break From Farm Supports, Says U.S. Chamber of Commerce

WASHINGTON—The Chamber of Commerce of the U.S. has recommended that Congress "break away" from farm price supports and production controls as self-defeating to the farmer and a heavy burden on the consumer and taxpayer.

The statements were contained in testimony prepared for the House Agriculture Committee by Walter Garver, manager of the chamber's agriculture department.

Mr. Garver said price supports and crop controls are placing the consumer in the position of a taxpayer competing with himself through government programs intended to increase the cost of his food and fiber.

Price supports, Mr. Garver said, have not only caused excess production, but have failed in their major purpose of increasing farm income.

Support payments, he said, have been used to increase production through the increased purchase of land, supplies and equipment. They have not enhanced net income.

As an example, he estimated that in the last 10 years the number of large farms has increased more than 50% and they now market nearly two thirds of all products sold. Despite the fact that these farms received 65-70% of price support payments, their profits per farm declined.

Turning to the chamber's proposal that Congress end farm price supports, Mr. Garver noted that this approach "will, of course, be branded by some as cruel and heartless."

But he pointed out that it is "not nearly as tragic or heartless" as permanently condemning hundreds of thousands of families to a "low level of living only slightly relieved, if at all, by dubious government programs," by keeping them on the farm when there are better opportunities elsewhere.

He said that while the initial impact on the farm economy might be "sharp," the danger "is greatly exaggerated."

"It needs to be remembered," he added, "that only a minor part of agricultural production is under the price support and control program."

"During the initial adjustment stage," Mr. Garver said, "it might prove necessary for a considerable period of time to neutralize, if at all possible, the huge stocks of the few commodities now held by government."

He said this would permit the freed commodities to "come to a normal market price without the depressing burden of the excess stocks hanging over the market."

Mr. Garver also recommended:

- Use of educational and extension work to increase the application of new farm techniques for reducing the costs of production.
- Programs of training, education and employment services for farmers who will be displaced in the years ahead.

"We believe," he concluded, "that farmers, business men, the Congress and the general public must face (the farm problem) . . . and that a policy of drifting or trying to live in the past by relying on mistaken palliatives will only make the problem worse."

New England Seen As Poultry Leader

FOSTER CENTER, R. I.—Through honest marketing, improved quality and intensive promotion, the New England states can take the lead in the poultry industry. This was the consensus of those attending the opening meeting of the recently organized Rhode Island Independent Poultry & Egg Producers' Assn. at Foster Center.

University of Rhode Island and state agriculture officials, poultrymen and association leaders were among the speakers.

FROZEN MINK FEED

VIROQUA, WIS. — The Kickapoo Fur Foods Plant Corp. here has completed arrangements for construction of a storehouse for frozen feeds for mink. Company officials plan to use refrigerated trucks to deliver the frozen feeds to mink ranchers after the building is completed.

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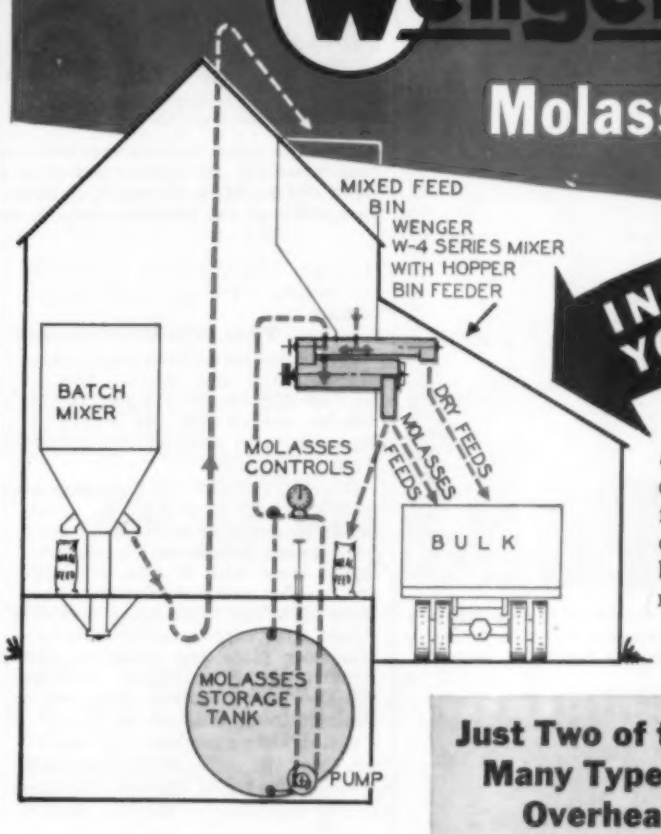

INSTALLED OVER YOUR DRIVEWAY

Apply molasses to meal feeds as feeds are loaded into bulk trucks, or convey back inside of feed mill for molasses feeds to be delivered in bags. Application of molasses just as feeds are delivered into bulk trucks eliminates problems of storing molasses feeds in bulk tanks.

Just Two of the Many Types of Overhead Installations

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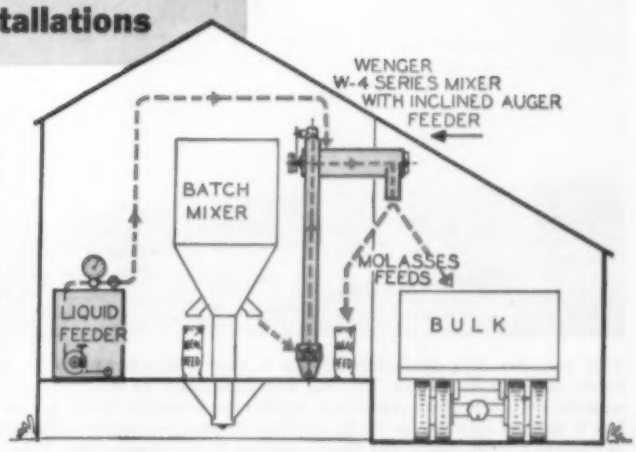

ABOVE: W-4 Series Hopper Bin model available (optional) with reversible feeder, as above. Hence may deliver mixed feeds to the molasses mixer, or into bulk trucks directly for those feeds to be delivered in meal form without molasses. Models available from 3 tons to 40 tons per hour.

RIGHT: W-4 Series Molasses Feed Mixer equipped with an inclined auger feeder, and charged from vertical batch mixers. Eliminates need for an elevator leg. Models available with inclined auger feeders with capacities from 3 to 18 tons make outstanding installation in custom shops.

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Feed Industry Research in Action

Allied Mills Scientists Report More Than 40 Tests at Research Farm Open House for Agricultural Press Editors.

By ROGER BERGLUND
Feedstuffs Managing Editor

The results of more than 40 feeding and management tests were presented when Allied Mills, Inc., manufacturer of Wayne Feeds, held an open house for the agricultural press at its 620-acre research farm near Libertyville, Ill.

The more than 80 radio and television farm editors and agricultural publication editors were given a broad picture of feed industry research in action. (Feedstuffs, July 4) They were taken on a tour of the extensive facilities covering all types of feeding and management research. In addition, they heard the results of more than 40 tests.

Dr. J. E. Hunter, vice president and director of research, pointed out how both fundamental and applied research is used in "building tomorrow's feeds today." He emphasized that the research farm is not a "showplace" or a "demonstration" farm but is used in obtaining the answers needed for modern feeding programs.

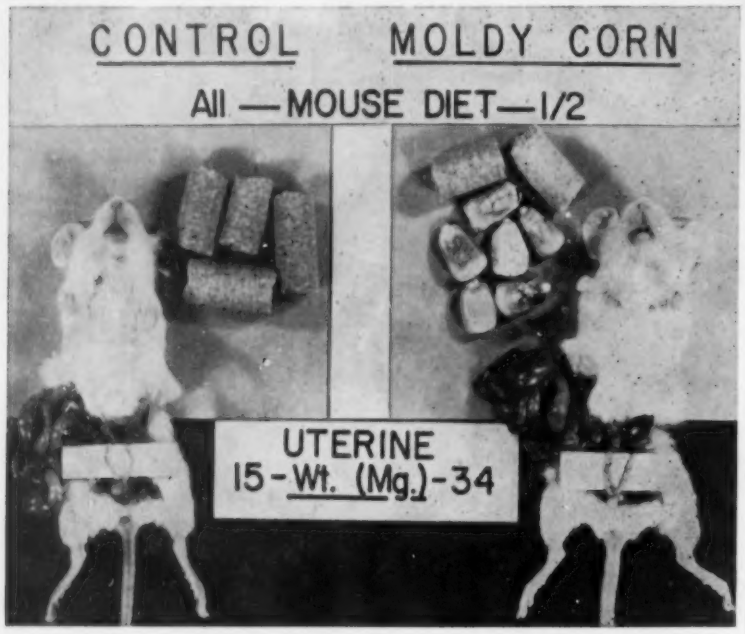
Dr. M. J. Brinegar, assistant director of research, noted that an experiment is being started or completed on an average of five out of every seven days and that more than 2,500 experimental rations are used every year.

Following the tour, Dr. Brinegar briefly outlined the results of numerous experiments at the farm, and he indicated that the company plans to release more research information in the future. He pointed out that much of the research now relates to management, as well as feed formulation, ingredient quality and ingredient balance.

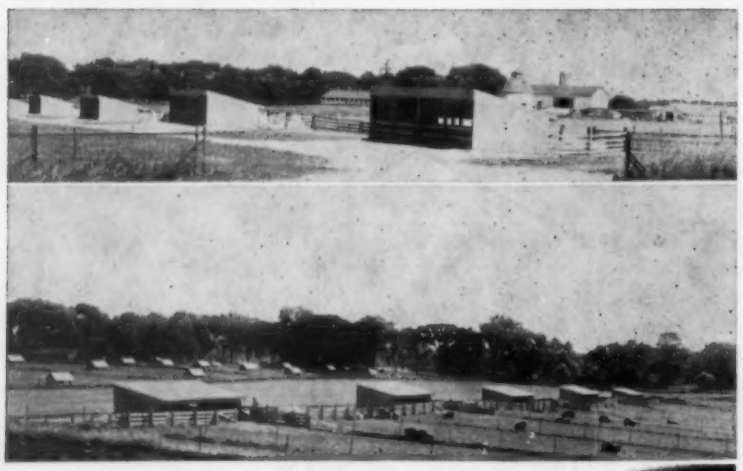
The results of some experiments, because of their confidential nature, cannot be reported, he said, but in many cases the data can be reported. In addition to a brief summary at the open house, written reports on the studies were presented to the editors.

An aerial view of just part of the facilities on the 620-acre research farm of Allied Mills near Libertyville, Ill. In addition to this section, there are other extensive facilities for poultry, swine and beef cattle studies.

Allied Mills scientists look over some of the material presented at the recent open house for the agricultural press at the Wayne research farm. Left to right are Dr. M. J. Brinegar, assistant research director; Dr. J. E. Hunter, vice president and research director, and K. L. Wike, laboratory director.



Mice used in a test in which hormone-like activity was found in some samples of moldy corn, which had produced undesirable reproductive stimulation in gilts. Noted the increased uterus size of the mouse on the right, which received one half moldy corn in its diet.



This sow breeding-gestation unit is a new addition to the Wayne research farm. It is designed for keeping sows confined to concrete or for pasture experiments. The pole buildings appear in these pictures to be backwards, but it merely appears as such, say the Wayne researchers. The upper picture is the rear view, while the lower picture is the front view, with pasture lots extending south from the buildings. Actually, the scientists wonder if we have been building many pole sheds backwards in the past. The new "backwards" design gives more summer shade and less open area in front for winter. Doors on the back that open to the inside are closed during the winter. They can be opened for cleaning.

Farm Facilities

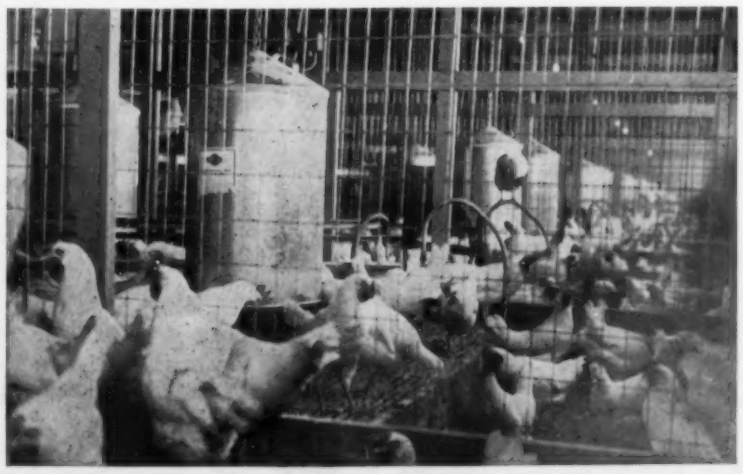
An experimental feed mill, equipped to make any type of feed, is part of the research farm, and it delivers rations for the dozens of experiments in progress at any one time.

In poultry studies, the experimental rations can go to one of the brooding units; range or confinement units for growing pullets; an experimental laying house with 48 pens for layer and breeder ration studies or a cage layer unit. The layer house was designed after experimenting with various floor plans and observing new commercial laying houses. Half of the floor area contains litter, with the remaining half consisting of a slat floor over a mechanically cleaned pit. Eggs are gathered from the aisle through the backs of nests. Ventilation is reversible so that an exhaust system is used in winter and a pressure system is used in summer.

Another experimental ration might end up in any one of the 430 pens of broilers on test in a year's time. There also are 288 battery decks used each year. Turkey feeds go to the new 20-pen confinement pole shed or one of the range units.

A 55-cow herd is used in dairy feed studies, and there are facilities for studies with 160 calves fed individually each year. A dozen and a half beef cattle pens are used for other ruminant studies.

Swine facilities include a new unique gestation unit which actually can, if needed, be used for just about any state of swine production. Sows are farrowed four times a year in the farrowing barn equipped with regular farrowing pens and convertible farrowing stalls that are changed to early weaning pens when the pigs are three to four weeks old. Ninety-six groups of hogs are fed each year



This is a view of the pen arrangement in the new layer unit. The pen area is half slats over a mechanically cleaned 8 ft. dropping pit. Four feet of litter is on each side of the pit. Feeders and waterers are over the pit.

in the growing-finishing confinement unit. Pasture tests round out the program.

Experiments in the breeding kennels and with more than 100 pups a year are used in dog food work. Allied Mary Jane and her 46 Pointer pups raised in 22 months are the most famous animals in this section of the farm.

An assembly-line system is used to collect feed consumption, weight and production records. One man with a "traveling office" built on a jeep spends all of his time weighing birds and animals used in the various projects.

In addition to regular feed formulation and management studies, Dr. Hunter noted, a considerable amount of work goes into studies of "I.Q.", or ingredient quality. A major part of the Wayne research, he said, is aimed at finding methods of detecting differences in ingredient quality. These methods are developed in the chemistry labs at the farm and coordinated with biological and feedlot testing.

Following are summaries of some of the experiments reported by Wayne researchers at the open house:

BEEF CATTLE: To show the improvement made in beef cattle nutrition the past 10 years, cattle received rations typical of 1949 and 1959. The 49ers were fed a mixture, free-choice, of alfalfa hay, ground ear corn and soybean meal; they also got a bone meal and salt mixture. The 59ers received a commercial mixed 32% cattle supplement fortified with stilbestrol, Aureomycin and Tran-Q. The mixture included 17% hay, with the remainder ground ear corn. The 59ers' advantages included a 45% faster gain, 18% lower feed requirement and slightly higher selling price; they netted a $22.66 per head greater profit.

A chick toe ash test, described in the accompanying article, is used in checking quality of dicalcium phosphate products. Newly hatched chicks are fed a ration without any extra phosphorus for one week. Then different groups are fed different phosphate supplements until 3 or 4 weeks old. One toe from each test is removed, dried and burned until only the ash remains. The percent ash in the dried toe is a measure of amount of phosphorus available for bone formation. The toe ash is in the foreground in the above picture.

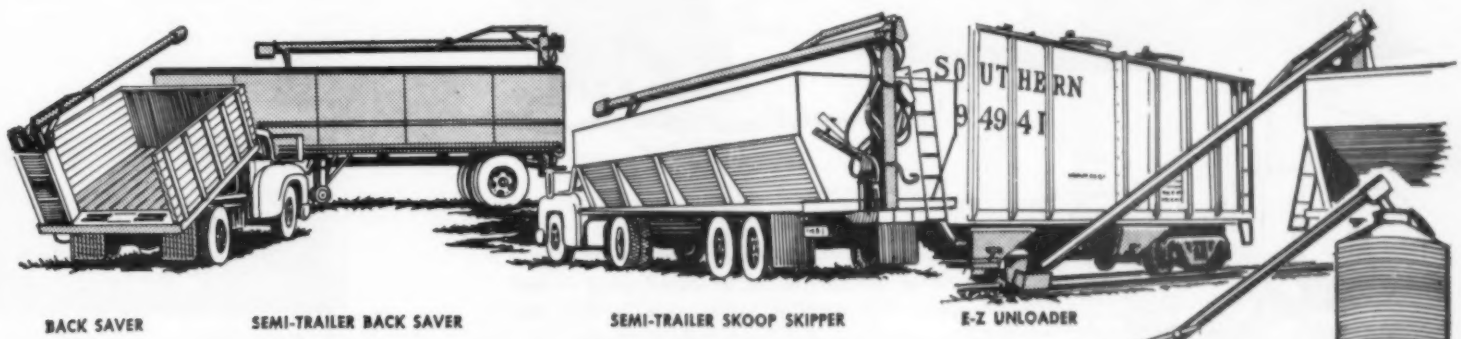
A pelleted ration is being fed to half the cows in the Allied Mills dairy herd, and the researchers report that milk production is sustained without any reduction in butterfat content. They note that all-pelleted rations are practical for milking parlor feeding where fast consumption is indicated.

Additives: Average results with stilbestrol from seven experiments showed an 11% increase in daily gain with a 6% saving in feed per pound of gain. Not much difference in improvement in gain and feed conversion between implanting and feeding stilbestrol was reported, but the Allied Mills researchers reported more side reaction from implants. Citing gain and market data, they "definitely recommend" feeding rather than implanting stilbestrol during the finishing period.

Average results from seven experiments with 70 mg. per head daily of Aureomycin in the feed showed an 8% increase in daily gain and 7% saving in feed to produce gain. The researchers recommended this antibiotic in both roughage feeding programs and in finishing cattle on high-grain rations.

Results from six experiments with Tran-Q showed an average of 5% increase in daily gain with a 5% decrease in feed required to produce gain. Results were improved in four out of the six experiments.

Reporting on dynafac for beef cattle, Dr. Brinegar said that in seven experiments, "it is not considered that any of the differences in performance exceeded the normal experimental error. Average results show only a 1% increase in rate of



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This shows one of the features of the growing-finishing unit for swine. Manure is removed mechanically and then augered up into a manure spreader with the inclined auger shown here.

gain and a 1% saving in feed requirement.

Other beef cattle experiments: With a high grain ration fed in mixed meal and pelleted form, pelleting decreased gain 3% and increased feed required for gain by 7%. It is believed that for pelleting to be profitable, the researchers said, the ration should contain more roughage.

Cattle receiving Tapazole gained 3% slower but required 11% less feed for gain, with daily feed consumption lower for those getting this thyroid inhibitor. The control ration was the same as the pelleted ration referred to above.

Feeding of 1 lb. per day of the Iowa Economy Supplement was compared with a 30% commercial supplement fed at 2 lb. per day. Both groups received 10 mg. stilbestrol daily. Costs of gain per cwt. were $17.64 for the economy supplement group and $16.55 for the commercial supplement group. The steers on the commercial supplement also brought a higher price, resulting in a profit of $25 per head more.

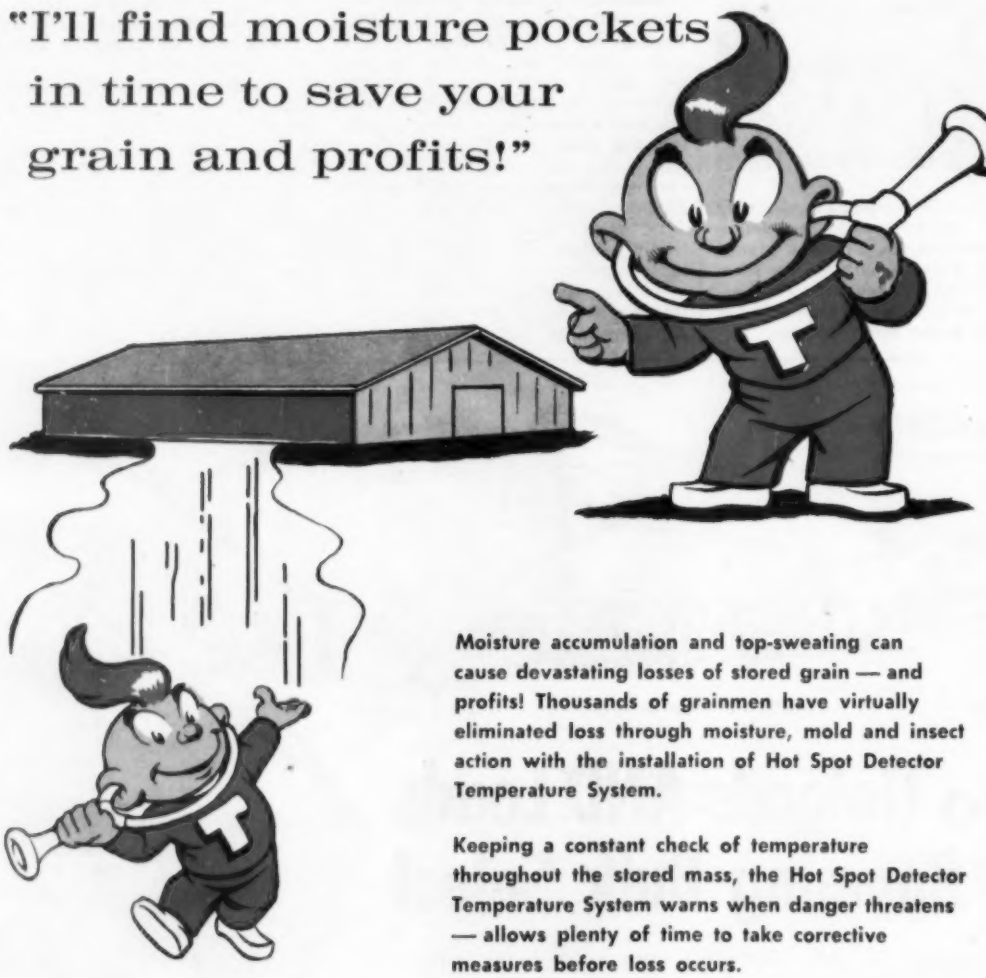
The researchers also presented results of a study showing the value of proper supplementation when corn silage is fed even when slower gains are desired.

SWINE: An experiment was conducted to learn more of the effect of early weaning on subsequent performance during the finishing period. Some reports have indicated that pigs weaned at 3 weeks, as compared to 8 weeks, required more feed to market time. In some cases, rations used immediately after weaning have been low in milk products. In the Allied Mills test, pigs were regrouped on sows at birth to minimize carryover effect of milking ability of sows. Pigs weaned at 3 weeks got 10 lb. of a ration containing considerable milk products. After this they received the same ration that was creep-fed to pigs remaining on the sows and weaned at 8 weeks. When all pigs averaged 67 days, those weaned at 3 weeks weighed 52 lb. and those weaned at 8 weeks weighed 44 lb. (lighter than normal in the research farm herd). There was little difference in performance after 9½ weeks—daily gain of 1.64 lb. for the 3-week-weaned pigs and 1.60 lb. for

The "49ers" at the top were fed a ration common in 1949. The "59ers", at the bottom, were fed a modern fortified ration, which resulted in the difference shown here—worth an extra $23 per head.

Thermy* says:

"I'll find moisture pockets in time to save your grain and profits!"



Moisture accumulation and top-sweating can cause devastating losses of stored grain — and profits! Thousands of grainmen have virtually eliminated loss through moisture, mold and insect action with the installation of Hot Spot Detector Temperature System.

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Operate the mill 10 days. If not satisfied, return it. WE WILL REFUND YOUR MONEY AND PAY RETURN FREIGHT.

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the 8-week pigs; feed efficiency of 334 and 331 lb. per 100 lb. of gain, respectively.

Three methods of feeding also were tested in this study—mixed meal; same ration pelleted; balancer and grain free choice. Pelleting had little influence on daily gain; it resulted in 3% less feed per unit of gain. Free-choice pigs gained slightly less but required about the same feed for gain as the meal-fed pigs.

Additives: Results were reported on six arsanilic acid tests with 282 apparently healthy pigs receiving a low level of antibiotic. Gains were increased an average of 6%, and feed required for gain was decreased 2% by feeding arsanilic acid. In one comparison, to show safety of the additive, three times the normal level of arsanilic acid was fed without any apparent adverse effect.

In four comparisons with baby pigs, Allied Mills reported more gain and less feed for gain with arsanilic acid than with 3-nitro. The researchers said the former has "worked best in the particular formulations we use." With growing shoats, they went on, average results from other experiments showed little difference in performance of feeds containing the two arsenicals.

Data were reported from the Wayne farm indicating that 3-nitro or arsanilic acid does not decrease backfat when fed to pigs. The backfat of the control pigs in this experiment averaged slightly less.

Also reported were results of a test indicating that with baby pigs the enzyme pepsin does not improve performance of rations containing considerable milk products. "Considering present prices and the fact that pepsin with low milk products does not equal performance of no pepsin and high milk products, there appears to be little place for pepsin in present day pig starters," Dr. Brinegar said.

Mineral balance: It was noted that the first report on the relationship of zinc and calcium to parakeratosis in swine was made in March, 1955, by Allied Mills researchers. Since that time, much has been learned about the importance of mineral balance.

The researchers outlined some of the calcium and zinc studies and then went on to note other studies with control rations containing added zinc. These experiments, they said, show that the practice of adding extra limestone or mineral mixtures to already balanced rations usually decreases gains slightly (though not always) and increases feed required for gain. In seven comparisons, addition of extra limestone or mineral mixture decreased gains an average of 6% and increased feed required for gain 10%. In one of the experiments, where mineral mixture was fed free choice, pigs consumed it at a rate equivalent to .64% of the ration. This voluntary consumption did not decrease gain but caused an 18% increase in feed required for gain.

Other tests: The Wayne researchers reported on an experiment on limiting the feed of swine. In this test, the economics were in favor of the full-fed hogs.

Also reported was a test in which ground shelled corn and ground ear corn were mixed with a hog balancer and fed from 90-100 lb. to market weight. Hogs fed ground ear corn required 8 more days to market. If the cob is subtracted, total feed for gain was about the same. Young pigs, it was noted, probably could not tolerate cobs so well.

Experiments were conducted to determine whether well fed swine reared on concrete from birth might benefit from addition of "clean" soil or haylage. Average rate of gain from control and control plus soil rations was about the same; feed requirement also was identical. Addition of haylage increased gains slightly (but not significantly in this test); total feed was more for the haylage group, but, when the roughage part of the haylage was subtracted, there was little difference.

An experiment was conducted to determine if there was any beneficial carryover from early pasture feeding to finishing period on concrete. One group remained on pasture. Pigs were farrowed on concrete and remained there to 50 lb. Some remained on concrete and the others were moved to pasture. At 100 lb. some of the pasture pigs were returned to concrete. Results to 100 lb. were essentially the same for all groups. After 100 lb., pigs which had received pasture gained slightly slower but required about the same feed as those which received concrete earlier. Hogs remaining on pasture after 100 lb. gained significantly slower than litter mates returned to concrete.

When a new medication formula was tested with pig starter in several experiments, it was noted that the relative response was greatest with "tail-ender" pigs. The pigs were weaned at 3 to 4 weeks and given the "old" and "new" medication for 2 or 3 weeks. Pigs were grouped into good, fair and poor thrift at the start of the tests. With the "old" medication, the poor pigs gained considerably slower than the good pigs. With the "new" medication, all groups of pigs gained at essentially the same rate.

Moldy corn and estrogenic activity:

(Turn to RESEARCH, page 72)

The most complete line of DOG FOOD ingredients

from ONE source

BOXER BRAND

44% SOY CAKE-LETS
expeller, pea-size
CORN KIB-LETS
expanded . . . kibbled
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EXPELLER SOY BEAN MEAL
and other ingredient specialties

Nowhere else can you secure such a major part of your dog food ingredients. By combining your ingredient purchases in cars, mixed cars or LCL you are assured of freshness, and better inventory control with lower inventory investment. BOXER ingredients are manufactured by us specially for dogs—they are "prime" products, and not "by-products." Write for current prices and literature.

RALPH WELLS & CO.
MONMOUTH, ILLINOIS
QUALITY DOG FOOD INGREDIENTS

Breezy* says:

"Engineered Aeration keeps air moving—offsets moisture accumulation!"

Accumulation of moisture and top-sweating can be controlled with the Hot Spot Engineered Aeration System.* Air is circulated throughout the mass, dispersing moisture accumulation and maintaining temperature at a level where insect and mold action is dormant.

Operated in combination with the Hot Spot Detector Temperature System, a Hot Spot Engineered Aeration System stands ready to take corrective action when danger threatens. Learn how Hot Spot can help you. Write today for the complete Hot Spot Engineered Aeration story.

NOTES FROM BREEZY'S AERATION HANDBOOK . . .

*Grain storage aeration systems may be operated by automatic control to provide maximum hours of fan operation within the desired atmospheric temperature and humidity range. The central action is achieved by high and low limit thermostats and by a high limit relative humidity device. The net cooling effect depends upon total fan operating time as well as the air flow rate. An automatic control can be on the job twenty-four hours per day, starting the system whenever temperature and humidity are correct for aeration.

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AUREOMYCIN FOR MORE CATTLE PROFITS

AUREOMYCIN in feed lot rations

Controlled feed lot experiments show

$12 EXTRA RETURN PER HEAD

Every farmer feeding out cattle wants to get results like these . . . and can with AUREOMYCIN in feed-lot rations:

- 44 extra pounds per head at market.
- more than 10% increase in feed efficiency
- 58% reduction in number of cattle requiring treatment for respiratory disease
- 79% reduction in liver abscesses
- almost complete elimination of foot rot

These are the averages of results obtained in a series of controlled feed lot experiments with quality feeds that provided approximately 70 milligrams of AUREOMYCIN® Chlortetracycline per head per day. The figures prove that AUREOMYCIN pays! They add up to an extra return of $12.00 per head on increased weight alone. Feed savings more than paid for the AUREOMYCIN.

Put your feeder cattle on good feeds containing the recommended amount of AUREOMYCIN *as soon as they go into the feed lot.* Feed continuously. For groups of cattle that undergo extreme stress due to shipping and weather conditions, your feed manufacturer will advise you to use the higher level AUREOMYCIN stress program.

Consult your feed manufacturer or feed mixer. American Cyanamid Company, Agricultural Division, New York 20, New York.

®AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.

CYANAMID
AUREOMYCIN
IN FORMULA FEEDS

Aureomycin in creep feeds

**Calves average 44 p
–bring $13.20 extra**

You can get results like these by using creep feeds containing AUREOMYCIN®!

Three controlled experiments, conducted under field conditions, show that beef calves fed AUREOMYCIN for approximately 115 days make dramatic gains over those not fed AUREOMYCIN.

These trials show an average improvement of 22% in feed efficiency. They show an average increase in daily gain of 26.8%. They show an average increase in total gain of 44 pounds per head
extra return o
based on prevai

These are the
more cattlemen a
use of creep
AUREOMYCIN!

Creep feeding
gets calves off to
give them the
needed for low-
down scouring
through weani
"starved out" lo

®AUREOMYCIN is American Cyanamid Company's trademark f

Better health . . . better gains . . . better dollar returns . . . these are the benefits obtained at every stage of cattle production through the use of AUREOMYCIN® in formula feeds.

Your cattlemen have been reading–and will continue to read all through the fall and winter–advertisements like those shown below.

These advertisements are designed to help cattlemen know more about the outstanding antibiotic for beef. They describe the successful results of AUREOMYCIN in range cubes, creep feeds and feed lot rations. Each advertisement helps you sell formula feeds by reminding customers to buy formula feeds from their feed manufacturer or feed dealer. Each advertisement prominently displays, in the logotype, the words "formula feeds."

If you are not now including AUREOMYCIN in your cattle feeds, plan to do so. Increasing consumer acceptance of such feeds is your assurance of higher sales volume.

American Cyanamid Company, Agricultural Division, New York 20, N. Y.

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ounds more per head return when sold!

. . resulting in an $13.20 per head g market prices. easons more and e increasing their eds containing

with AUREOMYCIN good start, helps rigorous health ut gains. It cuts – brings calves g without that . It helps you sell

chlortetracycline.

better looking calves and yearlings.

Talk to your feed manufacturer or feed dealer. Ask him for creep feeds containing AUREOMYCIN. American Cyanamid Company, Agricultural Division, New York 20, New York.

CYANAMID
AUREOMYCIN
IN FORMULA FEEDS

Bring 'em through the winter strong with range cubes containing Aureomycin

Cows, held-over calves and replacement heifers all need a *fortified* supplement to thrive on range and bring in extra income.

That's why more and more cattlemen are using range cubes!

Now . . . with the addition of AUREOMYCIN® to range cubes, you can provide your cattle with greater protection against stress and disease.

AUREOMYCIN in range cubes fights "invisible" diseases—fights the secondary invaders that usually follow respiratory infections and infestation by internal parasites. Cattle use their feed to build health and vigor... put on low-cost weight gains.

Range cubes containing AUREOMYCIN give you all these advantages:

- Your cows stay healthier, calve more easily.
- You increase chances for a bigger calf crop.
- Your held-over calves put on more pounds per feed dollar invested.
- Your replacement heifers develop soundly, reach vigorous maturity earlier.

Talk to your feed manufacturer or feed dealer. Ask him for range cubes that provide the recommended amount of 70 milligrams of AUREOMYCIN Chlortetracycline per head per day. American Cyanamid Company, Agricultural Division, New York 20, N.Y.

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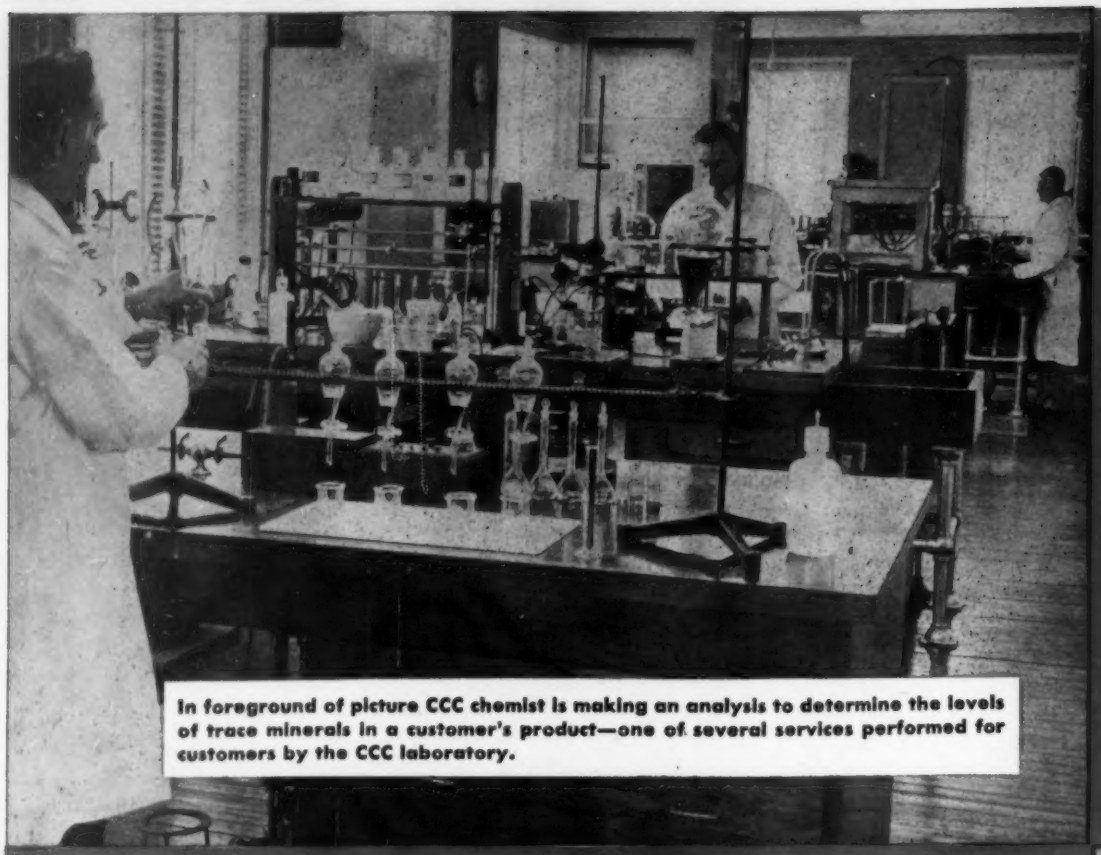
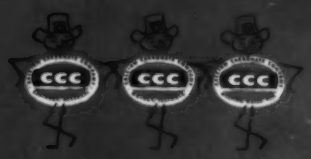
CYANAMID
AUREOMYCIN
IN FORMULA FEEDS



In foreground of picture CCC chemist is making an analysis to determine the levels of trace minerals in a customer's product—one of several services performed for customers by the CCC laboratory.

The Three Puritans



The Three Puritans symbolize the three CCC quarries—in Quincy, Illinois; Carthage, Missouri and Weeping Water, Nebraska—so called because of the high purity of the deposits.

Let CCC *Trace Mineral Research Work For You*

The efficiency of CCC Trace Mineral Premixes is the result of exhaustive research in the laboratory, in experimental work in cooperation with leading universities, and in actual use testing.

This extensive CCC research and quality control program assures you that CCC trace mineral premixes are the most advanced and thoroughly tested trace mineral premixes available.

CCC Trace Mineral Premixes

CCC Calcium Carbonate

CCC *Products...*

Calcium Carbonate—any desired grind.

Electro (free flowing) Calcium Carbonate.

Iodized Calcium Carbonate—any desired iodine level.

Manganesed Calcium Carbonate—any desired manganese level.

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Trace Mineral Premixes.

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Co-op Designs New Dairy Feed Program

RICHMOND, VA.—Southern States Cooperative on Aug. 3 will launch a new dairy feed program "designed to give agencies everything they need to get business of both large and small dairy operations."

Service Guide, Southern States' publication, said the new program will serve four functions: Take advantage of modern research, offer a simplified program, meet demands of the modern dairyman and supply dairy feeds cows like and will eat quickly.

Feeds in the co-op's new program include:

Milk Makers (partially pelleted)—Two feeds available, 20 and 16%. They will contain over 40% pellets, with the rest of the feed crimped grains and other unpelleted ingredients. These feeds will contain more than 1,400 lb. TDN per ton and fiber will not exceed 8½%.

Milk Makers (no pellets)—Two feeds available, 20% and 16%. They will be of the same quality as present, containing more than 1,400 lb. TDN per ton. Fiber will remain at 10% maximum.

Dari-Krunches (all pelleted)—Three types available, 14%, 16% and 20%. All will be 100% pelleted and will contain more than 1,400 lb. TDN per ton. Maximum fiber for the 14% and 20% Dari-Krunches will be 8½%. The 16% Dari-Krunch feed will have a maximum of 10% fiber. (Dari-Flo feeds will be discontinued July 27, and 16% Pasture Dairy feed will be discontinued Oct. 5.)

Fitting Feed—This feed will contain 30% pellets at all mills except at Richmond, where it will be 100% pelleted. Protein content will be 13% and the maximum fiber guarantee has been set at 8%.

Calf Maker, Calf Developer and Calf Pellets—No change in these feeds planned.

Supplement Feeds—Feeds in this category to be manufactured as in the past include: Pro-Blend 50, 32% Milk Maker, 32% Dairy Supplement and 24% Milk Maker. Pro-Blend 50 and 32% Milk Maker will be available in either regular or all-pelleted form.

Cottonseed Meal Rate

MEMPHIS, TENN.—Southern railroads have approved a proposal covering the application of the 80,000-lb. minimum rate on cottonseed oil meal to shipments in covered hopper cars, according to an announcement by the National Cottonseed Products Assn., Inc., Memphis.

NCPA officials said the minimum rate, as approved, would apply to "covered hopper cars, which carriers are not obligated to furnish, minimum weight 80,000 lbs., except when car is loaded to full visible capacity, actual weight, but not less than 70,000 lbs., will govern."

Adoption of the proposal was urged by the NCPA traffic committee.

36 Feed Firms Install New Mill Equipment

CHICAGO — A total of 36 feed firms in 13 states have recently installed Prater Pulverizer Co. Blue Streak equipment, the Chicago company has announced.

The states, and numbers of firms with new installations, are as follows: Kansas, two; Illinois, 11; Indiana, two; Michigan, three; Ohio, one; Minnesota, four; Virginia, one; Missouri, two; Iowa, two; Wisconsin, four; North Carolina, one; Washington, two, and South Dakota, one.

The machinery includes grinding, mixing, conveying and other equipment.

CO-OP BUILDING

MEAD, NEB.—Construction of a 450,000 bu. concrete annex was started recently at the Farmers Union Co-op here by Mid-States Construction Co., Omaha.

MILK–FISH
in Semi-Solid Form
For Poultry–Hogs
ASSOCIATED FEED PRODUCTS
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LABEL YOUR FEEDS:
"LABORATORY CONTROLLED" . . .
Quality control doesn't cost—it pays! Find out how this accurate, economical service can increase your feed sales.
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Serving the Feed Industry Since 1915

PWAY EXTRA RICH FEEDS ARE FAST SELLERS
PayWay Feed Mills, Inc.
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More and More . . . Feed Mills Are using More and More Stabilized ANIMAL FATS and MEAT PROTEINS
Find Out Why . . . WRITE
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Phone FR 2-3299

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this new invention would help you stack 500 lb. loads in minutes!
Hands you one bag at a time . . . at heights to 15 feet

Here's Seedburo's amazing HYTROL STACK-O-MATIC, the new kind of conveyor that cuts time and handling costs on any stacking operation.

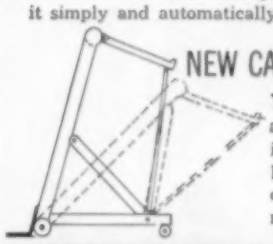
Start out by wheeling your load to the infeed platform . . . as much as 500 pounds at a time. Just tip your hand-truck and the STACK-O-MATIC is ready to go . . . no one-at-a-time lifting is required.

When you're ready, just push the raising button. The entire load is lifted and dropped on the delivery chute, one bag at a time. The second bag is not delivered until the first one is removed. When all have been unloaded the infeed platform automatically returns to floor level for another load.

Roll your STACK-O-MATIC easily from one job to another . . . use it on stacks of any height with its self-powered height adjustment that puts the delivery chute exactly where you want it. You'll find it ideal for close working quarters, too . . . because it operates at a steeper angle than ordinary conveyors, a minimum amount of floor space is required.

Let this new HYTROL STACK-O-MATIC deliver the savings you've been looking for.

Adjust to any height by changing the angle of your STACK-O-MATIC. Self-powered mechanism does it simply and automatically.



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Virginia Operation's Facilities Include New Feed Mill, Egg Plant—Both Highly Automatic

A new feed plant which is described as one of the most modern and automatic in the country is now in operation at Harrisonburg, Virginia.

It is the plant of the Rockingham Cooperative Farm Bureau, Inc. In addition to the new mill, the cooperative also recently dedicated its new egg marketing plant, which has the latest in automation for a facility of this kind.

Some 4,500 persons toured both installations at the open house held in connection with the dedication.

The fully automatic mill is among the first to use the IBM punch card system of control. Formulas are punched on cards, which activate the Richardson control panel. The panel automatically directs proportioning of ingredients and mixing. This system assures that feed ingredients will be properly proportioned mechanically in accordance with the pre-set formulas.

E. B. Kaylor, general manager of the Rockingham organization, pointed out that the mill has a capacity of 30 tons of manufactured feed per hour and is operated by a crew of eight men. The plant is believed to be the largest in the nation operated by a one-county cooperative.

The mill was designed and engineered by Sprout, Waldron & Co., Inc., Muncy, Pa., which also supplied the major equipment. The structure is of slip-form concrete construction.

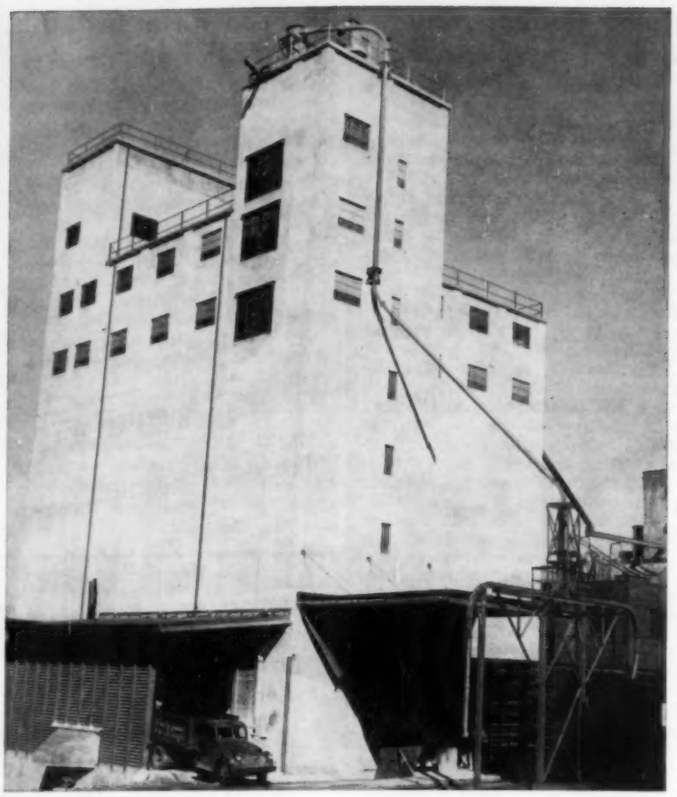
Mr. Kaylor noted that the new plant was built in order to increase manufacturing efficiency and reduce costs. It was designed with sufficient capacity to manufacture all Farm Bureau feeds handled at all the branches as well as at Harrisonburg. By concentrating manufacturing in one plant, he said, it is possible to reduce labor and handling costs and maintain more uniformity. The new mill, he added, is now handling the commercial production previously handled by three mills owned and operated by the organization, and is doing it in less time.

Complete Line

It was pointed out that the mill is designed to produce a complete line of feeds. Seventy per cent of the mill's operation is in the production of poultry and swine feeds, with ruminant feeds accounting for the other 30%. Sixteen types of poultry feed are produced, three types of hog feed and 10 types of dairy, sheep and cattle feeds. In spite of the variety of feeds, Mr. Kaylor said, there is no intermingling or contamination of finished feeds.

In addition to the automatic mill, the new egg marketing plant has attracted considerable attention. Grading, candling and packaging in consumer cartons are accomplished under refrigeration, with the eggs practically untouched by human hands once they reach the plant.

The egg plant is operating on a one-shift basis at a weekly capacity of 3,000 30-doz. cases. Machinery to double this output is being installed.



An exterior view of the new automatic feed mill of Rockingham Farm Bureau Cooperative, Inc., Harrisonburg, Va. Rising 120 ft., it is said to be the tallest structure in the Shenandoah Valley. On the right may be seen the pneumatic piping for pick-up of ingredients from rail cars.

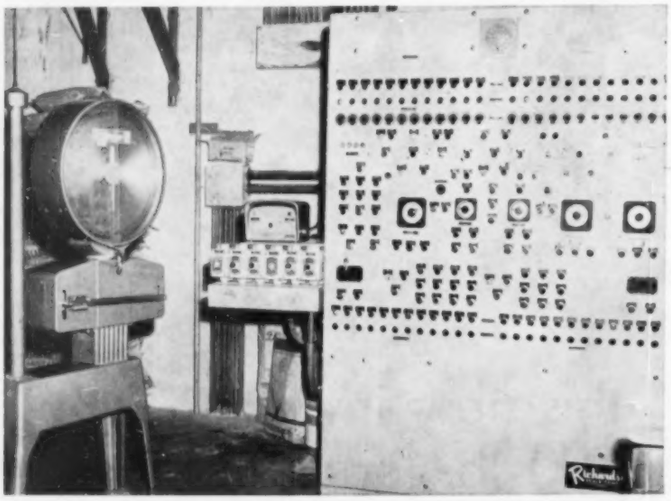
Bulk feed ingredients received by rail are unloaded with a pneumatic system which carries them to the top of the plant for distribution to storage. There are 62 ingredient and finished feed bins with a total capacity of 44 carloads. Materials received by truck are elevated by bucket elevator.

Of the 62 bins in the plant, 24 are for soft feed ingredients, eight for grain, six for pellets and crumbles, six for mash, six for ingredients above the molasses blending machine, 12 for bulk feed. The 24 ingredient bins will hold 34 carloads. The bulk storage, mash and pellet bins hold 10 carloads.

Mr. Kaylor said that about one fourth of the mill output is in bulk, with the amount increasing. In some feeds, he said, bulk represents half the output.

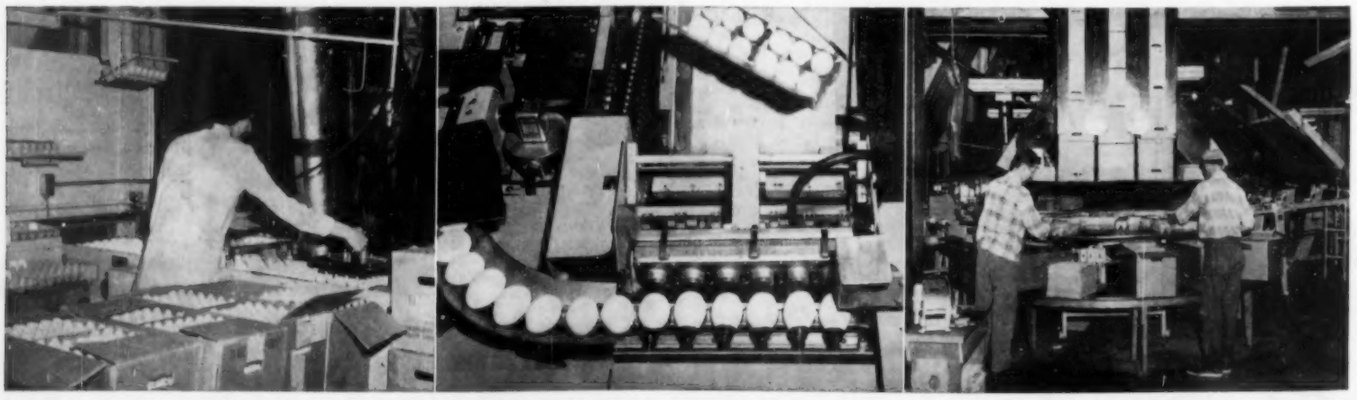
He said that pelleting has been increasing steadily. Between 1953 and 1954, only 10% of the feeds manufactured by the Rockingham Farm Bureau were pelleted. Last year this percentage increased to 25.

In connection with pelleting, he mentioned that there is an increasing trend toward bulk, pelleted dairy feed because of easier and simpler hand-



Here is the control panel in the Richardson punch card system for directing proportioning and mixing. Visual control of all operations is provided here.

Highly automatic equipment is housed in this $450,000 egg marketing plant at Harrisonburg, Va. In the automatic operations in the plant, eggs are virtually untouched by human hands once they reach the plant.



Above are some views of the highly automatic egg handling operations in the new Rockingham plant. The initial facilities include two Barker Flash candlers and sizers. Combined with these machines are two automatic packing machines. Eggs are loaded into the machines, 30 eggs at a time, by a vacuum lift. They are candled and sized automatically. As they come out, they are automatically packaged according to size and grade. The only fully automatic stations now working are for large eggs, but more automatic stations will be added. The accompanying article includes a description of some of the facilities.

Frank McBride (left), Dawe's Laboratories, Inc., Chicago, is congratulating Elmer B. Kaylor, general manager of the Rockingham Cooperative Farm Bureau, Inc., at the time of the dedication of the organization's new automatic feed mill and egg marketing plant.

ling. Other dairy feeds include bulk mixing pellets which are used to give the feed a coarse texture. Approximately 25% of the typical dairy feed consists of these mixing pellets.

The pelleting is done with a Sprout-Waldron Ace Pellet mill, V-belt driven from a 100 hp. 1200 r.p.m. Allis-Chalmers motor. Other major Sprout-Waldron equipment includes a 26" attrition mill, a 24" high speed hammer mill, a Pneu-Vac negative pressure system for conveying ground corn from the hammer mill and attrition mill to storage, two 3-ton horizontal mixers, a Gyro-Whip feed dresser, a pellet cooler with automatic louvers, a double agitator continuous molasses blender, and a 20' slider type belt conveyor.

Bagged feeds are delivered on the second floor and moved by conveyor to the warehouse.

In loading out bulk feed, trucks back into the building under the bulk bins. The feed is weighed in hopper scales which give printed weights for each load.

Citing the growth of the Rockingham Farm Bureau, Mr. Kaylor said that the organization in 1958 did a volume in excess of $9 million, and membership now totals almost 6,000.

The cooperative was organized in 1921, and since then there have been only two general managers. The first, C. V. Smith, remains as secretary-treasurer. He was succeeded in 1951 by Mr. Kaylor.

The new mill supplies feed for both the immediate area and branches at Bridgewater, Cross Keys, Elkton and Timberville, Va.

Egg Operations

The egg operations are housed in a new $450,000 plant at Harrisonburg. Visitors at the open house saw what was described as one of the most modern egg operations on the East Coast.

Two Barker Flash candlers and sizers were in operation. Combined with these machines are two automatic packing machines which automatically place eggs into dozen cartons or flats of eggs which are then carried by conveyor belt to the casing area. From the time eggs leave the farm until the carton is opened by the consumer, they are handled only by machinery.

The eggs are loaded into the machines, 30 eggs at a time, by a vacuum lift. Then they are candled and sized automatically. As they come out they are automatically packaged according to size and grade. The only fully automatic stations now working are for large eggs. Eventually there will be four automatic stations for each machine for the sizes extra large through small. At maximum operation each machine can turn out 20 30-doz. cases per hour. In addition to the large machine, there are four smaller machines capable of handling 12 cases per hour. Just in case, there are still four hand candling booths ready for use.

(Turn to page 42)

Hoffman
for complete nutritional service
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Gilbert Jackson COMPANY, INCORPORATED
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All Feed Ingredients
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Where only trace minerals are to be added, Herman Nagel's Trace Mineral Concentrate supplies all eight, in correct balance.
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IT PAYS TO GO BULK WITH BUTLER

Butler Bulk-O-Matic® System saves Georgia Poultry Company $740 weekly

The South Georgia Poultry Company, Incorporated at Camilla, Georgia, decided to handle its poultry feed the modern Butler Bulk-O-Matic way instead of handling it in bags.

The results: Direct savings of $640.00 in feed costs and $100.00 in labor costs each week.

But that's only the beginning. This company's bulk feed station (pictured above) is expected to handle twice—even four times—its present volume, and effect even further savings.

Now is the time to go bulk with Butler . . . switch from the old sack method of handling feeds and effect substantial savings in bag charges and labor costs. Handling feed the Butler Bulk-O-Matic way will also help you increase your over-all efficiency. Spillage, wastage and rodent damage will be eliminated. And, your customers will appreciate the faster, more efficient service you'll be able to give them.

Butler Bulk-O-Matic tanks can be supplied as individual units, each complete with its own discharge auger. Or, you can have a complete Bulk-O-Matic installation tailored to fit your specific needs, furnished complete with the necessary bucket elevators, augers, and belt conveyors—all push button controlled for ease and speed.

For full details on this modern way to handle feed in bulk, write the Butler office nearest you.

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PROVIDES THESE BENEFITS FOR GROWERS

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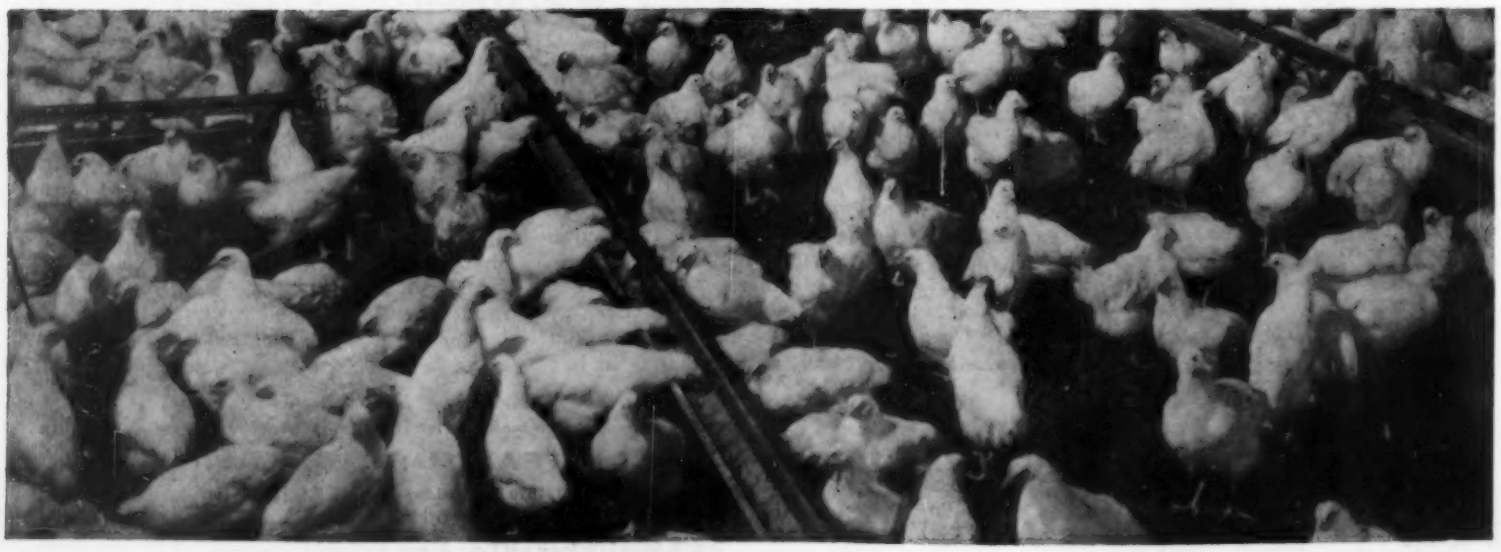
- **Sure dosage—1 lb. of Wormal in 100 lb. of feed treats 250 turkeys or chickens of any age.**
- **Economical—Only one extra egg more than pays for two treatments.**

Takes The Guesswork Out Of Worming

Growers are having trouble enough these days without trying to make a profit feeding wormy birds. And many of them are tired of using "hit-or-miss" wormers that get only one or two kinds of worms. No doubt they've heard about Dr. Salsbury's WORMAL, about how it protects birds and profits from the hidden worm hazard. Hard-hitting advertising in farm papers, poultry publications, and on radio is telling them how WORMAL takes the guesswork out of worming, how it removes all three major types of poultry worms that cause economic loss. All these ads say, directly or indirectly, "Ask for feed containing WORMAL." That's why your feeds should contain WORMAL—so you can cash in on the growing demand for feeds that contain a *complete* wormer. Mix WORMAL in your feeds for chickens and turkeys—it gives your feeds profitable extras you can sell!

NATIONWIDE SERVICE



with WORMAL, the Complete

large roundworms, cecal worms

PROVIDES THESE BENEFITS FOR YOU

- Customers are quick to recognize that your complete and convenient worming program does the best job of removing worms.
- Worm-free birds utilize feed more efficiently—your feeds gain wider recognition and acceptance.
- Granulated WORMAL is the easiest wormer to handle, to mix, and to inventory.
- All of the grower benefits add up to more satisfied customers. And this means more feed sales for you.

Plus Extra Services

Because of your desire to provide superior feeds for your customers, you may wish more detailed information about Dr. Salsbury's WORMAL, the only *complete* poultry wormer on the market today. Please write, wire, or phone for either one (or both) of the two booklets shown here—Feed Manufacturer's Guide No. 17 and "Here's how to make and merchandise your own worming feed for poultry." Or, you may wish to talk personally with a Dr. Salsbury representative and ask him about using WORMAL in your feeds for chickens and turkeys. Either way, be sure to give your feed the many profit benefits that only WORMAL can provide.

Dr. SALSBURY'S LABORATORIES
Charles City Iowa

TO THE FEED INDUSTRY

RAPID INCREASE IN GRAIN BANKS

LAFAYETTE, IND. — The number of grain banks operated by elevators and feed mills is doubling each year in the Midwest, it is estimated by Dr. W. S. Farris, agricultural economist at Purdue University. Under the grain bank system, farmers "deposit" grain at the local mill and then withdraw it as ground and mixed feed is needed. Small and medium-size farmers in particular, it was noted, have found the grain banks a boon in eliminating storage and feed processing costs, while feed mills have found the system valuable in increasing sales of their services and concentrates.

All storage of cartons and cases is on the second floor and chutes feed these cases and cartons to the grading and packing areas on the first floor. The plant also has a breaking room for processing of liquid and frozen eggs.

Quality Egg Program

It was noted that the Rockingham Farm Bureau now has 130 laying flocks under top quality agreements. In all there are 372,640 hens under these agreements, and they are producing at least 85% A quality eggs. None of the individual flocks numbers less than 500 birds. In addition to the flocks under the quality agreements, the cooperative also serves 1,455 other producers through its egg department.

The Farm Bureau pays growers premiums for both quality and quantity; the latter stresses frequent deliveries. All eggs on the farm are kept under refrigeration; this is required in the contract.

The organization has one form of contract under which it furnishes the hens and grows them. The grower reimburses the Farm Bureau for the cost of the birds from his egg checks until paid for. Then the hens are his property.

Report on CocciVac Available on Request

NEW YORK — Dorn & Mitchell Laboratories, Inc., Opelika, has announced the availability of a report covering a study of coccidiosis vaccination. The booklet is entitled "Technical Information and Review of Experimental Data—CocciVac."

Designed for use by technical and scientific personnel in the poultry field, the 32-page brochure provides detailed research and field data regarding the control of coccidiosis using CocciVac coccidiosis vaccine.

Technicians and scientists may obtain copies of the brochure by sending on company or institutional letterhead a request to: Dorn & Mitchell Laboratories, Inc., 1450 Broadway, New York 18, N.Y.

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IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

Mill or Elevator design and construction. Milling Plants, Storage, Grain Elevators, Warehouses.
Frame or Fireproof Construction
Hogenson CONSTRUCTION CO.
722 Flour Exchange · Minneapolis 15, Minn.

USDA Reports on Support Activities

WASHINGTON—The U.S. Department of Agriculture has reported the extent of price-support activities on grains through June 30, 1959. The amount of 1958-crop corn put under support shows an increase of about 4.8 million bu. from the total reported in the summary issued July 8.

The total of 1958-crop corn put under support through June reported at 381,000,390 bu., includes 329,060,654 bu. of farm-stored corn, 14,578,585 bu. warehouse-stored and 37,361,151 bu. under purchase agreements. Corn put under at the non-compliance rate amounted to 151,907,930 bu. or about 40% of the total put under.

Most of the increase was reported in Iowa and Illinois, according to USDA. The total under support in these two states reported through June was 70,114,206 bu. in Illinois and 118,769,493 bu. in Iowa.

Quantities of 1959-crops reported under support through June were relatively small. Of the 22,019,695 bu. of wheat put under through June, 8,551,600 bu. were in Kansas, 10,857,929 bu. in Oklahoma and 1,560,904 bu. in Texas. Through June, 2,494,649 bu. of barley had been put under support. Of this, most was put under in Arizona, 544,440 bu.; California, 1,744,662 bu.; Kansas, 75,251 bu., and Oklahoma, 121,404 bu. Through June, 429,431 bu. of oats were reported put under support, scattered mostly in Arkansas, Georgia, Mississippi, North Carolina, Oklahoma, South Carolina and Texas.

Repayments of loans on 1958-crop corn and soybeans show some increase, says USDA. On corn loans, repayments through June covered 49,807,307 bu., of which 42,297,332 bu. were put under support at the non-compliance rate. Repayment of corn loans was mostly in the following states: 7,343,600 bu. in Illinois, 2,639,267 bu. in Indiana, 13,893,852 bu. in Iowa, 1,659,788 bu. in Kansas, 7,074,468 bu. in Minnesota, 2,625,369

Loans and Purchase Agreement Totals, Loan Repayments and Quantities Delivered Through June on 1958 Crops

	——Warehouse and Farm Loans——			—Purchase Agreements—	
	Total under loan	Quantity repaid	Quantity delivered	Quantity under agreements	Quantity delivered
Barley, bu.	86,919,063	26,815,596	28,617,281	20,380,379	4,274,069
Corn, bu.	343,639,239	49,807,307	4,933,468	37,361,151	208,136
Flaxseed, bu.	11,698,106	205,752	9,549,959	3,444,784	1,871,980
Oats, bu.	69,443,449	15,473,468	17,571,217	15,164,985	2,063,433
Rye, bu.	8,711,013	978,921	4,976,419	1,438,448	393,908
Soybeans, bu.	125,902,988	40,994,975	57,056,907	14,301,568	154,782
Wheat, bu	560,332,589	72,996,031	435,697,249	49,140,306	22,915,578
Dry edible beans, cwt.	3,206,495	2,594,276	608,518	311,414	11,833
Grain sorghums, cwt.	147,791,758	8,634,829	132,295,596	6,769,232	3,858,242
Rice, cwt.	8,307,518	3,389,845	4,573,298	3,279,751	1,367,147

WARFARIN
with another great promotion

WE'RE TELLING FARMERS
60 Million Times . . . to
KILL RATS WITH
WARFARIN!

Once again WARFARIN baits will be promoted with smart, aggressive advertising in 16 leading farm papers in the U. S. and Canada. These ads will have a combined, accumulated circulation of more than 60 million farmer-readers.

That means 60 million hard-working, close-to-the-farmer's pocketbook messages that sell . . . and *sell* . . . and SELL!

To make them sell *for you* . . . buy, display and recommend baits containing WARFARIN!

ADVERTISED IN THESE LEADING FARM MAGAZINES

FARM JOURNAL · CAPPER'S FARMER
PROGRESSIVE FARMER · WALLACES FARMER
PRAIRIE FARMER · NEBRASKA FARMER
WISCONSIN AGRICULTURALIST · THE FARMER
GRIT · HOARD'S DAIRYMAN · POULTRY TRIBUNE
FARMER'S ADVOCATE · LA FERME
FREE PRESS WEEKLY PRAIRIE FARMER
FAMILY HERALD

. . . plus a big four-page Educational Insert in BETTER FARMING METHODS

THE BEST-SELLING BAITS

bu. in Missouri, 8,427,430 bu. in Nebraska and 1,285,059 bu. in South Dakota.

Repayments on 1958-crop soybean loans totaled 40,994,975 bu. through June. Of this total, most redemptions were in the following states: 8,630,633 bu. in Arkansas, 6,595,999 bu. in Illinois, 2,542,366 bu. in Indiana, 4,868,989 bu. in Iowa, 2,288,106 bu. in Minnesota, 2,009,251 bu. in Mississippi, 7,144,341 bu. in Missouri, 1,279,410 bu. in Ohio and 1,293,462 bu. in South Carolina.

New Sales Record Set

DES MOINES—VyLactos Laboratories, Inc., Des Moines, surpassed all sales records for a six month period during the first half of 1959, according to Bill Rogerson, president. Tonnage on Scotch O Lass and Omalass, the company's two dried molasses products, was up 17% over 1958. Volume of Dynasol, dried fish solubles product, was 15% ahead of last year, Mr. Rogerson said.

Pennsylvania Meeting Theme Will Be Future Feed Industry Trends

EPHRATA, PA. — "Tomorrow's New Trends" in feed production, feed handling, animal feeding and agricultural marketing will make up most of the program of the 81st annual convention of the Pennsylvania Millers & Feed Dealers Assn. at the Yorktowne Hotel, York, Pa., Sept. 24-25.

The first general session will begin with a keynote address on the future of agriculture by Paul B. Dague, Congressman from the 9th district. His topic will be "How Much Government Does Agriculture Need?" Another first-day speaker will be Dr. Robert F. Hutton, Pennsylvania State University, who recently received national recognition for his work on feed formulation using electronic computers (linear programming). He will discuss "Least-Cost Feed Formulation for the Small Mill."

The evening of the first day is being kept open, except for one or two optional activities.

A breakfast for association members only has been scheduled for 8 a.m. on Sept. 26, at which time the association's annual business will be transacted.

Contracts, financing and the economics of egg production will fill the morning program Sept. 26, with the afternoon being devoted to mill management and marketing problems.

A social hour followed by the traditional annual banquet with a full program of entertainment will climax the convention the night of Sept. 26.

Following the pattern of previous years, a separate program of activities and entertainment for the ladies is being planned by a committee headed by Mrs. Nelson Weaver, Lancaster, Pa., and Mrs. W. C. Hiestand, Salunga, Pa.

Robert B. Graybill, general manager of Miller & Bushong, Inc., Rohrerstown, Pa., is the convention general chairman. He noted that York is in the heart of the heaviest concentration of feed dealers in the state, and that the program has been designed to capitalize on this.

"My committee has worked hard on a program that we feel will be of interest and value to everyone in the feed industry, and particularly to the smaller dealers and manufacturers. I particularly urge the dealers of this southeastern quarter of the state who are within a short drive from York to grasp this opportunity to send their foremen, managers or other key employees to this convention," he said.

Registration will follow the pattern of recent years. All room reservations must be made with the association secretary and be accompanied by a registration fee. The Yorktowne Hotel will not accept room reservations directly from conventioneers.

COOL, MAN, COOL

SANTA MARIA, CAL.—When the contractors could not find enough jacks to lower a feed store here to its new foundation, they used ice blocks to do the trick. They put 17 blocks of ice, weighing 100 lb. each, under the store. As the blocks melted, the store settled easily onto its new foundation.

Cincinnati Feed Club Picks Committee Heads

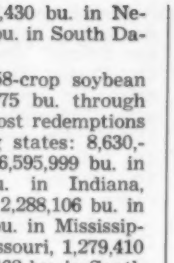
CINCINNATI, OHIO — Chairmen of committees for the 1959-60 season of the Cincinnati Feed Club have been announced by Ray Fledderman, Archer-Daniels-Midland Co., chairman.

They are: House and welfare, Carl Nortman, John F. Young Co.; program, John Wansik, Commercial Solvents Corp.; membership, Roland C. Lindsey, Riverside Molasses Terminal Co.; auditing, Alfred A. Apsel and James L. Mueller, Bache & Co.; nominations, Charles M. Winchell, Darling & Co., and campaign, (pellet ticket), Robert Sander, E. Kahn's Sons Co., and (mash ticket), Robert Hauser, Darling & Co.

rings the bell

to help you sell rat baits!

HERE ARE YOUR 3 KEYS TO BIGGER PROFITS!

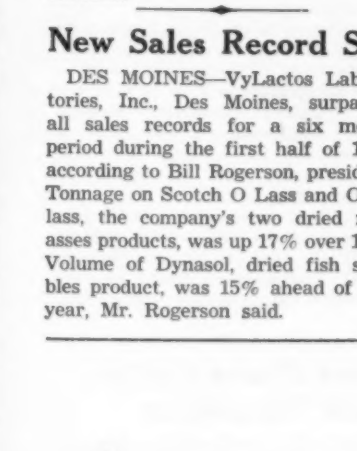


BUY BAITS CONTAINING WARFARIN!

WARFARIN is the world's biggest-selling rodenticide!

Advertised to farm markets nationally for nine years and used with outstanding success by farmers everywhere, WARFARIN today is synonymous with rat control!

Best of all...WARFARIN'S marketing program gives you fast turnover *at a mighty handsome profit!*



RECOMMEND BAITS CONTAINING WARFARIN!

They're *safe* . . . but *sure!*

Rats never develop bait-shyness . . . never build tolerances.

WARFARIN is the only rodenticide backed by a national research foundation. It has been used with outstanding success for over a decade . . . a marvelous record for a *proven profitable product!*

DISPLAY AND PROMOTE BAITS CONTAINING WARFARIN!

Cooperate with our national annual rid-your-farm-of-rats campaign. *It's a profitable public service to your community!*

Plan a big display and promotion for the opening of the "rat season" in your area. Then *keep* WARFARIN baits prominently displayed . . . and include them in local newspaper and radio advertising . . . throughout the Fall and Winter months, coinciding with our national advertising campaign.

WISCONSIN ALUMNI RESEARCH FOUNDATION

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- Meat Scraps
- Sugar
- Defluorinated Phosphate
- Feed Supplement Urea
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Symposium Planned On Magnesium In Agriculture

MORGANTOWN, W.VA.—A symposium on "Magnesium in Agriculture" is being planned for Sept. 3-4 at West Virginia University.

One session of the program on Sept. 4 will include discussions of magnesium in animals. Scheduled speakers and their topics are: "Magnesium in Poultry and Non-Ruminant Mammals," by Dr. B. L. O'Dell, University of Missouri; "Effect of Mg and Ca Upon Efficacy of Antibiotics in Poultry," by Dr. Damon C. Shelton, West Virginia University; "Magnesium Nutrition of the Calf," by Dr. J. W. Thomas, Beltsville (USDA), Md., and "Wheat Pasture Poisoning Syndrome," by Dr. R. E. Davis, also of the USDA Beltsville center.

Another session on Sept. 4 will be devoted to "grass tetany" and "winter tetany." Speakers will include: Dr. Custer, Oakland, Md., veterinarian; Dr. Dozsa, D.V.M., West Virginia University; Dr. R. Marshak, D.V.M., University of Pennsylvania; Dr. Leffel, University of Maryland; Dr. Grainger, University of Kentucky, and Dr. D. J. Horvath, West Virginina University. Dr. J. K. Loosli, Cornell University, will be chairman of the afternoon session and will conclude it with a general discussion and evaluation.

The program on Sept. 3 will concern magnesium in plants and soils, and problems of magnesium assay.

The symposium will be held at the West Virginia University Medical Center Auditorium. Co-sponsors of the event are the department of animal husbandry and department of agronomy and genetics.

Additional information and reservations may be obtained by writing Dr. D. J. Horvath, department of animal husbandry, West Virginia University, Morgantown, West Virginia.

Great Plains Cattle Need Phosphorus

FORT COLLINS, COL. — Range cattle in the Great Plains area need phosphorus supplement during most of the time they're on pasture, according to Ford Daugherty, associate animal husbandman with the Colorado State University experiment station.

Mr. Daugherty says that it may even pay the plains cattleman to provide the supplement from mid-April to mid-July when the range is in good shape under normal conditions.

"A 10-day dry spell during those three good months can reduce phosphorus content of grasses below minimum needs of range cattle," Mr. Daugherty points out.

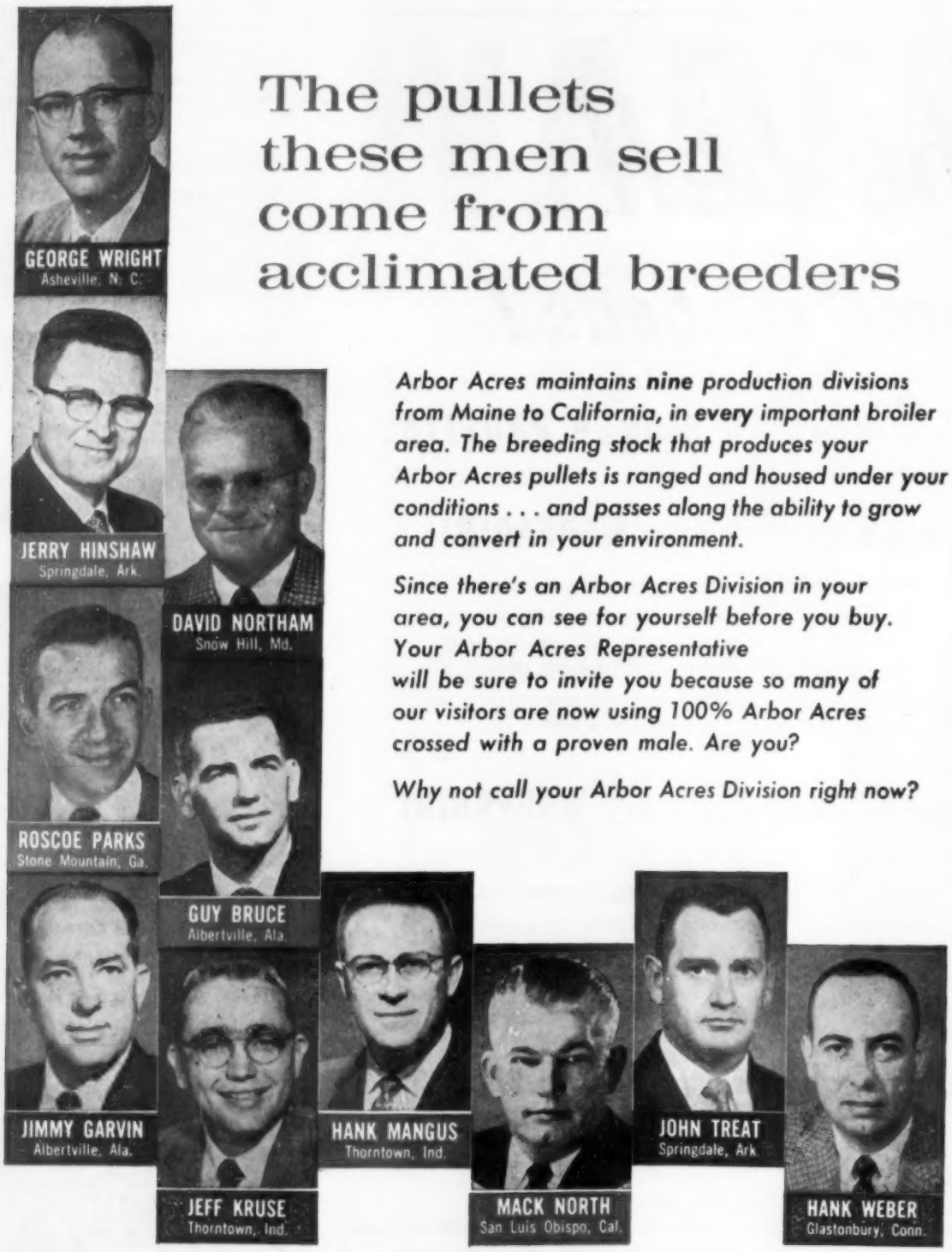
He bases his recommendations on a three-year study at the Eastern Colorado range station, between Akron and Sterling.

Mr. Daugherty's tests showed that phosphorus content of range grasses was as high as .25 to .30 of 1% during the period when the grass was growing most rapidly. On the other hand, phosphorus content dropped off sharply in mid-July and went as low as .10 of 1% toward the end of the year.

He points out that recent research work indicates phosphorus content should be between .20 and .25 of 1%, rather than the .18 of 1% once accepted as adequate. Thus even a short dry period during the best part of the growing season can drop phosphorus content below the minimum requirement, he says.

The most noticeable result of phosphorus deficiency is a lowered conception rate in the cow herd, Mr. Daugherty says. He notes that one of the major problems facing ranchers during the drouth of the 30's was that most cow herds were suffering from lack of phosphorus. As a result, percent of calf crop dropped on most ranches.

Since most ranchers in the plains area breed their cows in and around June, the phosphorus content of grasses is naturally sufficient for a breeding season of only about six weeks, he points out.



The pullets these men sell come from acclimated breeders

Arbor Acres maintains nine production divisions from Maine to California, in every important broiler area. The breeding stock that produces your Arbor Acres pullets is ranged and housed under your conditions . . . and passes along the ability to grow and convert in your environment.

Since there's an Arbor Acres Division in your area, you can see for yourself before you buy. Your Arbor Acres Representative will be sure to invite you because so many of our visitors are now using 100% Arbor Acres crossed with a proven male. Are you?

Why not call your Arbor Acres Division right now?

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● No. 5 in a series of conversations with Gooch Feed dealers

"Gooch's Red Circle Auction is great for kids and dealers, too."

"I just got back from the annual Gooch Red Circle Auction. A two-day affair down at the CK Ranch at Brookville, Kansas. Must have been five thousand farm youngsters and adults there. And the Gooch people obviously had put a lot of time and money into making sure they had a good time. Gooch auctions off beef and dairy calves and gilts—outstanding stock—and the kids bid for them with red circles saved from Gooch products. It seems like every youngster around saves red circles for that auction. I'm glad I'm a Gooch dealer. I'd hate to sell against these farm youngsters out putting the pressure on their folks and neighbors to buy Gooch feeds and save the red circles for them."

The Gooch Red Circle Auction is more than a promotional stunt. It gives farm youngsters the experience of buying livestock under conditions similar to those their fathers experience in the business of farming. And, the first day of the program a series of achievement awards are presented to those who did the most with their previous years' auction purchases. Ask any Gooch dealer. He'll tell you the Gooch Red Circle Auction is good public relations *and* good sales promotion.

There may be a Gooch franchise available in your area. Write to Gooch Feed Mill Company, Salina, Kansas, or Lincoln, Nebraska.

GOOCH FEED MILL COMPANY

Lincoln, Nebraska • Salina, Kansas • Council Bluffs, Iowa
Dalhart, Texas • Vicksburg, Mississippi

GOOCH RED CIRCLES ARE VALUABLE! GOOCH'S BEST COLLECT THEM

DYNAFOS®

takes the waste out of phosphorus feeding

- **Ends the need to add unnecessary margins of safety**
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- **Out-performs phosphates of low availability even under "practical" conditions**
- **Makes feeding recommendations based on phosphates of low availability out-of-date**
- **Provides proven high phosphate availability with low calcium content**
- **Makes it unprofitable to over-fortify with phosphates of low availability**

Buying "second best" feed phosphates to cut formulation costs is false economy. Second best or low cost sources actually waste phosphorus because much of the phosphorus isn't available—can't be used by livestock or poultry.

This makes feeding inferior phosphates an expensive business, especially when compared with the readily available phosphorus provided by International's Dynamic DYNAFOS.

Biological availability tests prove DYNAFOS is today's superior dicalcium phosphate. It is chemically processed and purified . . . low in calcium too. DYNAFOS delivers more available phosphorus in every pound—out-performs phosphates of low availability even under practical conditions . . . ends the need to add unnecessary margins of safety.

You cut formulation costs because you actually need less Dynamic DYNAFOS. And unique beaded form makes handling and mixing better than ever. Write or wire your International representative for details.

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Wet Corn Feeding Value Equals Dry Corn in Silos

URBANA, ILL. — High-moisture corn stored in conventional silos is about equal to dry corn in feeding value, according to a recent University of Illinois study.

Here are the study results as reported in the summer issue of Illinois Research magazine:

The tests indicate that ensiled high-moisture corns have about the same feeding value for lambs and yearling beef calves as dry corn. Dairy cattle make efficient use of high-moisture corn, but it is not superior to regular corn. Swine probably won't do so well on high-moisture corn as on dry corn.

Corn moisture contents were approximately 25, 30 and 35%. Using a self-propelled combine with corn head attachment, the University of Illinois researchers had little trouble harvesting corn at 35% moisture and lower. At higher moisture, heavy silks plugged combine sieves and too much corn was left on the cob. Thirty percent moisture gave lowest field losses.

Thirty percent moisture corn also proved best for silo storage. The researchers found that top unloaders used to take grain from the silos often loosened more corn than they removed. This probably caused more rapid top spoilage. The study indicates that 3 to 4 inches of corn should be removed each day to prevent spoilage in warm weather.

The ensiled high-moisture corns had about the same feeding value for lambs as dry corn. Researchers fed 72 lambs, adjusting feeding rates so that all animals received the same amount of corn dry matter daily. No significant feeding value differences were found between dry and high-moisture rations.

Corn with 25-30% moisture equalled dry corn in feeding trials with yearling Hereford heifers. Average daily gain was 1.91 lbs. for yearlings on 29% moisture corn and 1.89 lbs. for those on dry corn. Heifers fed 35% moisture corn ate about 2 lbs. less corn a day and made slower and less efficient gains.

Hogs tested on pasture and on drylot did not do so well on the three high-moisture corns as on dry corn. For example, average daily gain on drylot was 1.27 lbs. for pigs on 30% moisture corn and 1.39 lbs. for those on 14% moisture.

Average daily consumption was higher for all three high-moisture corns than for field-dried corn. The increase was not great enough, however, to insure equal intake of dry matter. Therefore, on the average, feed required for a pound of gain was least on 14% corn.

The three high-moisture corns were nearly equal in feeding value in tests on 27 Holstein and Brown Swiss milking cows. Twenty-four Holstein heifers gained fastest on dry corn. However, the dry corn was ground and grown on a different field from the high-moisture corn. Researchers believe these two differences may be partly responsible for faster gains on dry corn.

MILL COMPLETED

CORRECTIONVILLE, IOWA — Martin Vust, owner, has announced the completion of the new Correctionville Elevator and Mill. The 40 ft. by 48 ft. concrete block building has new grinding and mixing equipment with a 60-ton capacity per day. Operation is automatic, with overhead tanks supplying grain and concentrates to the equipment.

SOLVE YOUR FERTILIZER PROBLEMS

One of these three Specialized Simonsen Units will put you on the road to More Fertilizer Profits.

FEEDILIZER

Simonsen's brand new Feedilizer spreads fertilizer as accurately as any unit on the market. Yet it is a double-barreled investment because it's also a completely hydraulic bulk feed delivery body. Delivery auger reaches 21-foot bins, swivels 360 degrees. It's a year around workhorse.

MIXER SPREADER

With Simonsen's unique Mixer Spreader you can get into the complete fertilizer mixing and spreading business with minimum cost. Only three bins for storage of basic plant food ingredients and a Mixer Spreader will let you spread practically any fertilizer ratio needed by your customers.

REGULAR SPREADER

You can't help getting a perfect fertilizer spread with Simonsen's fertilizer spreader. Its proven wheel-drive method assures accurate spreading regardless of field conditions, weather, speed of truck or other factors. Your key to satisfied customers . . . repeat business . . . better profits.

Choose one of these units to solve any fertilizer distributing problem you have . . . easier . . . better . . . for a more profitable operation. For the full story of Simonsen's proven quality units write:

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YOU
provide the location
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so you can use and profit from an
ARID-AIRE
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this year . . . and for years to come

MAIL THIS COUPON TODAY FOR COMPLETE INFORMATION ABOUT ARID-AIRE'S Sensational NEW *LONG TERM* LEASE PLAN. With this plan it's easier and more profitable than ever to use an ARID-AIRE grain dryer. You don't tie up your working capital—you don't borrow against your regular line of credit. You get faster depreciation advantages PLUS the business building—profit making advantages of using the safe, modern, easy-to-use ARID-AIRE grain dryer!

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Please send me details of Long Term Lease Plan and free folder.

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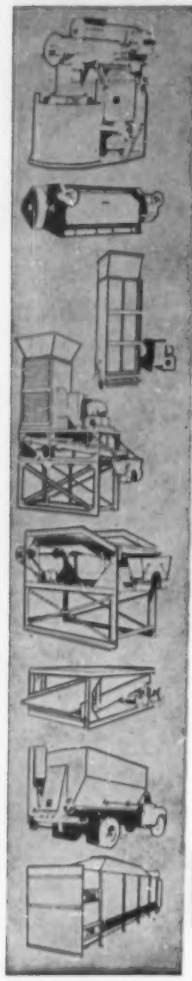

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Nutrition Studies Discussed At Ag Research Conference

By Special Correspondent

MADISON, WIS.—Pellets and wafers, additives for the ruminant ration, poultry feeding recommendations and swine feeding were among subjects discussed at the Farm Research Assn.'s meeting July 15-17 at the University of Wisconsin.

The gathering of more than 60 men interested in feeds first heard about studies of pellets and wafers.

"If we can draw any conclusions from our experiments, it is that there is no real difference between the palatability and nutritive value of hay wafers and long hay," said Dr. J. W. Crowley from the Wisconsin dairy husbandry department.

"The first few days the cows preferred pelleted hay over baled hay and ate over 3 more pounds of wafers per 100 lb. of body weight," Dr. Crowley related.

But over the whole trial they ate only a little over 2 oz. more pellets per cwt. of body weight in the first trial and less than 0.2 oz. more pellets in the second trial. There were similar insignificant differences in pounds of milk produced.

Cows eating a pelleted ration did finish eating one hour before the others, but rumination time was almost identical.

Dr. W. M. Beeson, Purdue University, emphasized that for each class of livestock the effects of pelleting should be studied independently. The type of ration influences the conclusions even within a class.

Beef Cattle

When hay is pelleted for beef cattle, daily gain and feed consumed per pound of gain are considerably higher than similar measures for long hay if the roughage is of poor quality. As the hay quality improves, the gains from pelleting become less. Also high roughage diets bring out the advantages of pelleting. These advantages tend to disappear with high energy diets.

Hay and concentrates pelleted into one capsule tend to decrease feed value from the two types of pellets fed separately, it was indicated.

When corn is pelleted, it is better to make the green plant into pellets than the silage. In fact, the corn silage is a more efficient food than both corn silage pellets and green corn pellets.

In trials of a hay and sorghum ration, the daily gain and feed efficiency went up as both the hay and the sorghum were fed in pellet form. The best results came from a pelleted hay-pelleted sorghum plant combination.

Ag Engineer's Comments

"When I was a boy, I never thought I would ever be able to throw a handful of hay the length of a room," said H. D. Bruhn, University of Wisconsin.

At that, the agricultural engineer cocked back his arm and let fly with one of his four-inch diameter "hayfers" to show how easily pellets can be handled.

Then Mr. Bruhn presented figures showing that pellets were also space-savers. The average Wisconsin dairy farmer makes 100 tons of hay each year. Two 18′ x 16′ grain bins will hold that entire harvest in pellet form. In other words, it takes ½ to ⅛ the space a similar weight of hay would require.

The same 100-ton harvest can also be transported in two railroad box cars or in four full semi-trailers.

Mr. Bruhn emphasized how fortunate it is that as a labor-saving device pellets hold out the promise of maintaining hay quality. Leaf separation is at a minimum with pellets, and is considerably lower than with another space-saver—chopped hay.

Pellets also may be processed at a higher water content than bales. In some experiments, hay with as high a moisture content as 30% was already handled successfully. If a way were found to handle it with a 30-40% moisture content consistently, then it could be processed the same day it was cut.

"Right now, the least expensive way to buy pellets is in wafer form at the local feed processing plant," Mr. Bruhn advised. "Our field pelleter is still pretty inefficient, but five years from now it will be a completely different machine."

Feed Additives

Dr. C. A. Lassiter, department of dairy science at Michigan State, led a panel on the subject of additives for the ruminant ration.

Very soon after Aureomycin was released by the Pure Food & Drug Administration, he got reports from the field that after cows were fed the drug, they produced more milk than before. Dr. Lassiter checked on this in 18 Michigan herds, and he said that cows with Aureomycin in their ration produced no more milk in any one day than paired cows without the drug. Aureomycin did increase production over the whole lactation cycle by causing it to stretch out more.

"Based on present milk prices, this increase would not pay for the Aureomycin if fed in the crumbles form we used. It would just about pay for the drug if fed in the regular supplement form."

Dr. Lassiter said, "Good health records were not available but most farmers could see very little improvement in this area. Probably the most significant observation made so far is that a bloat condition appeared to

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GRAND TOUR—Winner of the seventh annual livestock judging contest sponsored by Chas. Pfizer & Co., Inc., New York, was Darrell L. Silveira (left), 16-year-old Tranquillity, Cal., high school student. He is shown with his vocational agricultural teacher, William Braun, as the two left International Airport for a prize tour of Britain and northern Europe. The winner, after placing as a regional winner in photographic judging of meat-type barrows and gilts, submitted the best essay on "Life-Cycle Feeding of Hogs—What It Is and Its Economic Advantages to Hog Raisers." Darrell and Mr. Braun will visit hog operations, meet agricultural authorities and sight-see in England, Scotland, France and Denmark.

be associated with the feeding of Aureomycin in the crumbles form."

He said the trouble with bloat occurred mainly when the cows were being put on feed, first 3-4 weeks, but not entirely. Some trouble was experienced after the cows were on feed for 3-4 months, and some herds didn't run into trouble until the second trial.

"So far it appears that about 8% of the cows fed Aureomycin had some trouble but this was located in 12 out of the 18 herds," Dr. Lassiter said. "This does not appear to be associated with type of feeding program, type of housing, breed or general health and sanitary conditions."

The only relationship found was with level of milk production, according to Dr. Lassiter. "All of the bloat trouble occurred in the middle or high producing herds and none in the low producing herds. The general pattern followed was that these cows would go off feed and bloat before they would go back on feed. As yet we do not know the effect of Aureomycin on milk production during the second trial which was run during the winter feeding period."

Other Additives

According to Dr. Lassiter, results of Michigan, Pennsylvania and Iowa studies show that enzyme feeding in calf rations is not advantageous. "I know of no results with feeding enzymes to milking cows. We are interested in possible work with enzymes that will improve the performance of animals fed high roughage-low grain rations."

In discussing hormones, Dr. Lassiter said that thyroprotein feeding to milk cows increases milk and fat production, but usually the increase is not economical. "I know of no work which shows that the estrogenic hormone, diethylstilbestrol, improves the performance of milking cows. As far as I know, none of the other hormones have been tried as a feed additive."

Only limited data are available on the use of tranquilizers in dairy rations, Dr. Lassiter said. The Michigan experiment station worked on Tran-Q at a level of 10 mg. per day which gave some promise. "We have recently finished a 90-day continuous trial with Tran-Q and Tysine but these results are not available," he said.

Nitrate Poisoning

Dr. M. E. Muhrer, University of Missouri, introduced the problem of nitrate poisoning. With normal fertilization and a period of drouth, nitrate compounds may build up in the soil.

"A concentration of up to 0.25% may actually stimulate production by being converted into protein. Above that concentration it becomes a problem," Dr. Muhrer said.

The problem is that it produces a vitamin A deficiency despite a high carotene content in the diet. The toxic effects can be counteracted by adding molasses and vitamin A in free form to the diet. However, the harmful component can be nullified before it does any harm by an oxidizing agent. Potassium permanganate in the drinking water will do the trick. Evantually, Dr. Muhrer thinks researchers will come up with a feed

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Since the advent of stilbestrol, one promising additive for beef rations has been developed, according to Dr. W. E. Burroughs, Iowa State College. Tapazole, a thyroid extract which has not yet been cleared for use by the Food & Drug Administration, will put 15-30 extra pounds on a steer when used at the end of the feeding period. It will return about $5 or $6 for every dollar invested. It does not cause any difference in grade or carcass quality.

Poultry Feeding

Some standard recommendations in poultry feeding will probably be reduced, according to Dr. H. R. Bird, University of Wisconsin poultryman.

Experiments at Cornell show that the vitamin A requirement can be cut to less than half of the recommended dose, without harm. Other experiments show that neither high temperature nor intermittent feeding causes increased requirements as was once supposed. Of all the conditions studied, only roundworm infestation seemed to cause a higher need for vitamin A, according to Dr. Bird.

Protein for laying hens can also be fed at the minimum now recommended without risk. The present lower limit is 15%, and some trials show that 12-13% is sufficient.

High energy feed can considerably increase efficiency in egg production, Dr. Bird said. A disadvantage is that it causes feather picking. With 10% added fat, picking became a problem. When fat was raised to 15% in the diet, hens practically picked each-other's backs bare. The immediate cause for this picking is not clear. It is not a form of cannibalism, since hens don't seem to try to draw blood, and death loss from picking is extremely low. Debeaking is no help.

Because of the picking and the high cost of fat, Dr. Bird does not suggest adding fat to the laying ration. Instead he recommends a diet brought to a moderately high energy level by plenty of corn in the ration.

Swine Nutrition

How nutrition of the sow can affect litter size was discussed by Dr. R. H. Grummer, chairman of the animal husbandry department, University of Wisconsin.

He said 85-90% of the factors affecting litter size are due to environmental factors. "It is hard to say what part of these factors is contributed by nutrition," he added.

One nutritional factor definitely affects litter size by stimulating the number of eggs produced. That is level of feed intake.

From age 4 to 5 months, a gilt was put on ⅔ of a full-feed ration. Three weeks or less before breeding her, at about 8 months of age, she got full feed. At breeding time her ration was again cut to ⅔. It then was increased gradually, depending on her condition. This program added 2½ eggs to the gilt's production, on the average.

The protein level of sow feed needs more study, said Dr. L. E. Hanson, University of Minnesota. Pig mortality was much lower with a 10.7% protein ration than with 14.3% protein. The comparative figures on mortality in two experiments were 45% with the high protein ration versus 5% for the low, and 21% versus 8%.

Protein for Pigs

Protein studies with pigs show that for a starter, 19% protein in the feed is sufficient, provided there is a proper balance of amino acids.

From the ages of 3-8 weeks, there is no point in going over 20% protein, according to Dr. Hanson. At that level there seems to be the highest feed efficiency. Nitrogen retained in the body also is highest when protein is fed in the range of 16-20%.

A study of the calcium level in pig feed shows it is at an optimum somewhere between 0.8-1.0%. A serious oversupply is very apparent with calcium at the 1.4% level.

Dr. Hanson reported no advantage in feed efficiency from adding sugar, rolled oats or fat to the pig ration.

He also commented on some controversial findings that "make me hesitate to push early weaning." Feed costs for pigs weaned at three weeks were $12.70, compared with $11.90 for those weaned at eight weeks of age. The differences in weaning ages are extreme, though, he said.

"You might well get improved feed use if pigs are allowed to suckle till they're five weeks old, compared with those we weaned at three weeks," said Dr. Hanson.

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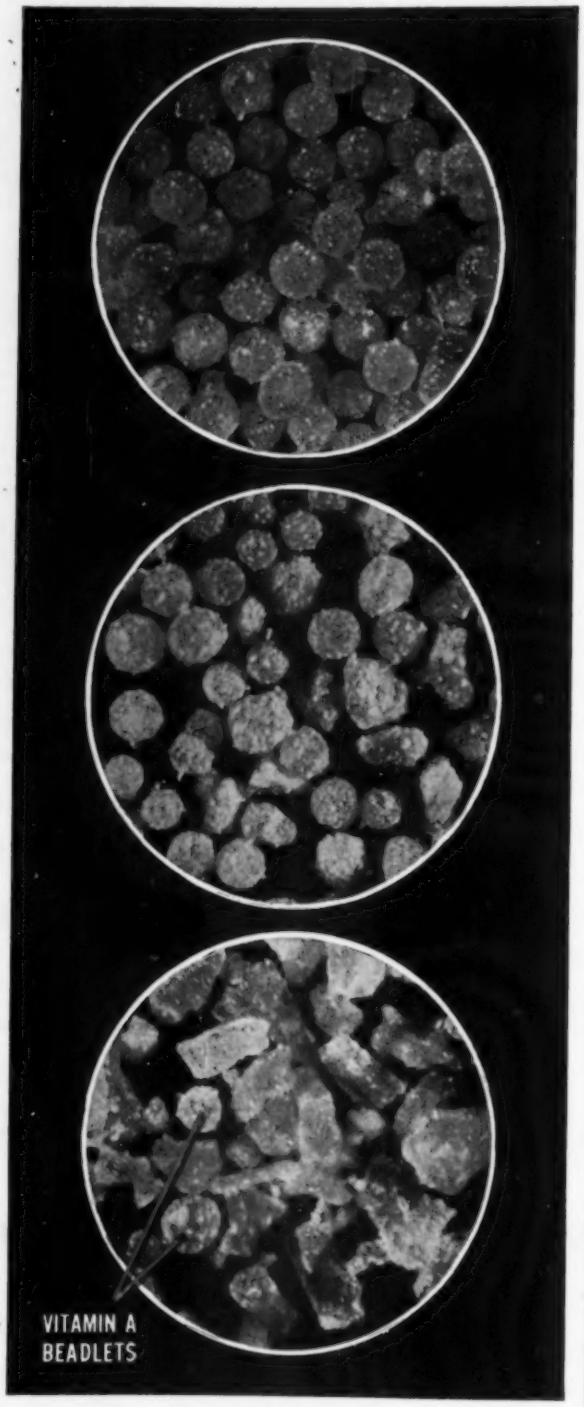

THREE PHOTOMICROGRAPHS OF VITAMIN A PRODUCTS

Top: Micratized Vitamin A, Nopcay® Type III. Spherical beadlets are A-active particles. Note that *all* particles in this product are A-active.

Center: Micratized Vitamin A, Nopcay Type V. Note that almost all particles are A-active. Occasional non-spherical particles are diluent, and included to assure free-flowing properties of product.

Bottom: A typical competitive product. Only two spherical A-active beadlets surrounded by non-active filler.

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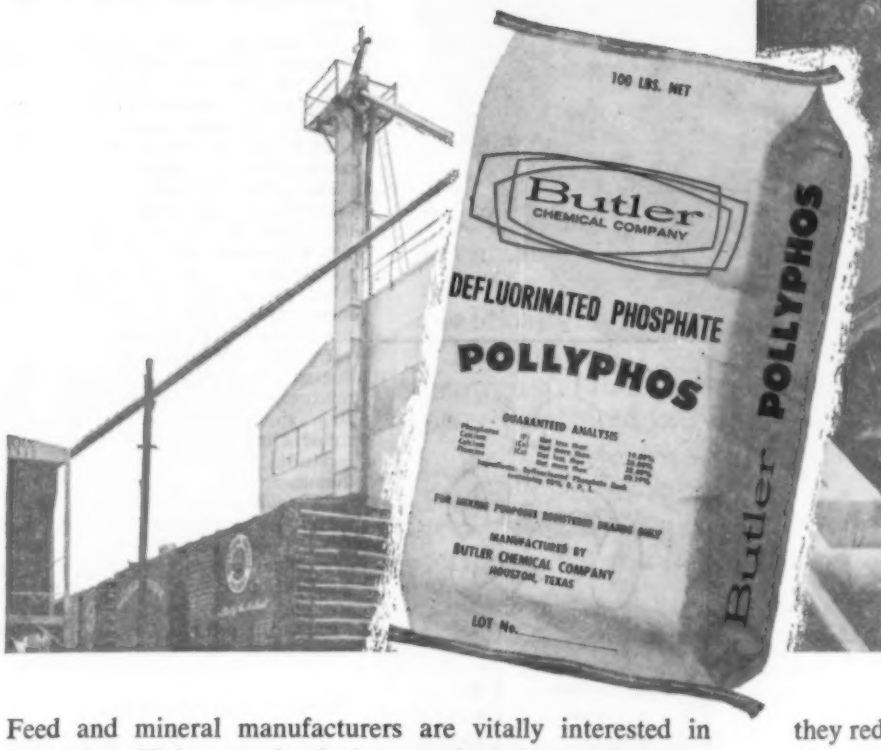

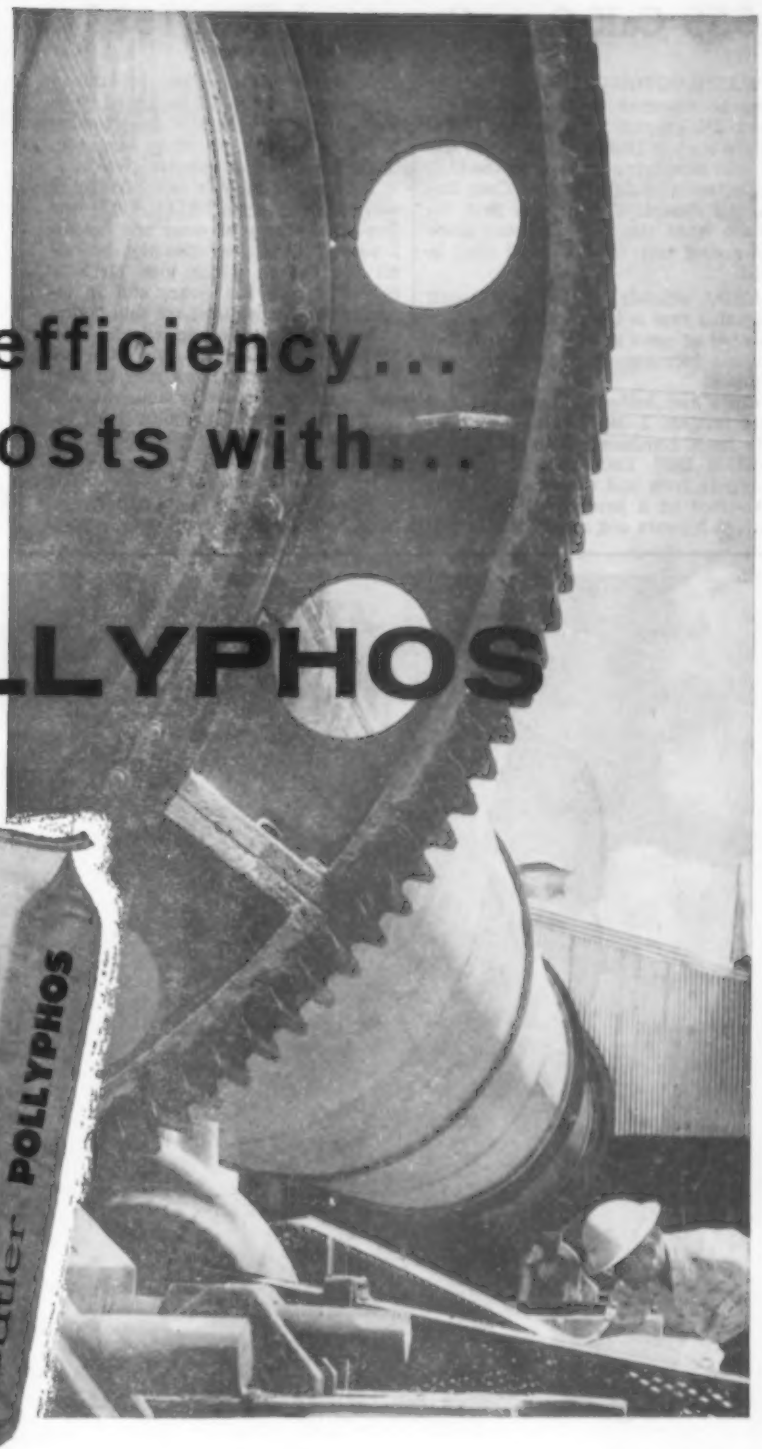

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USDA Expects Two Percent Greater 1959 Calf Crop Compared With 1958

WASHINGTON—The 1959 calf crop is expected to total 41,328,000 head, 2% greater than the 40,514,000 calves born in 1958, and 7% above the 10-year average, according to the U.S. Department of Agriculture's Crop Reporting Board. This is the first increase from the previous year since the record crop of 42,601,000 head in 1954.

USDA officials say the larger calf crop this year is the result of a larger number of cows and heifers on farms and an increase in the calving percentage.

Cows and heifers 2 years old and over on Jan. 1, 1959, totaled 47,190,000 head compared with 46,520,000 head in 1958. The expected number of calves born and to be born in 1959 expressed as a percent of cows and heifers 2 years old and older Jan. 1, 1959, was 88% compared to 87% in 1958 and the 1948-57 average of 86%. The current percentage was equaled in 1942 and 1953 but never surpassed in the 35 years of records.

This percentage is not strictly a calving rate, says USDA, since the Jan. 1 inventory of cows and heifers 2 years old or over does not include all the heifers which give birth to calves during the year, and it includes some cows that are sold before calving. The percentage, which shows trends in productivity over a period of time, fluctuates from year to year due to variations in cow slaughter and in withholding for breeding herd replacement, according to USDA officials.

North Central States

The expected calf crop of 16,892,000 head in the North Central states exceeds the 1958 number by 1%. At this level these 12 states would produce 41% of the U.S. total calf crop. The East North Central states expect 6,126,000 calves in 1959, down 2% from last year, while the 1959 estimate of 10,766,000 calves for the West North Central states is 3% greater. The calf crop expressed as a percent of cows and heifers 2 years old and older was 89% for the East North Central and 92% for the West North Central states.

Southern States

The estimated 3,347,000 calves for the South Atlantic states exceeds a year earlier by 1% while the 10,997,000 calves in the South Central states is 4% over the 1958 crop. The 16 states in these two regions account for 35% of the U.S. total. In the South Atlantic states the calf crop expressed as a percent of cows and heifers 2 years old and older is 79% and in the South Central states, 86%.

Western States

The calf crop in the 11 Western states is estimated at 7,179,000 head, 3% more than in 1958 and exceeded only by the 1955 crop of 7,221,000 head. The calving percentage at 88 is the same as 1958. The Western states make up 17% of the U.S. total.

North Atlantic States

An expected 2,913,000 calves born and to be born in the North Atlantic states this year would be slightly less than the 2,923,000 head last year. The 1959 calf crop for this area is 7% of the national total. The expected calf crop is 85% of cows and heifers 2 years old or older.

Florida Pelleted Creep Feeds Tests Reported

GAINESVILLE, FLA.—Beef calves creep-fed cracked or flaked corn in two experiments had higher gains than calves fed pelleted corn, according to Dr. J. F. Hentges, Jr., associate animal husbandman at the University of Florida's main station.

Pelleted corn and cracked corn were compared in a 1957 experiment. Calves were offered a feed mixture of 80% pelleted corn and 20% non-pelleted supplement in Lot 1. Calves in Lot 2 had the same mixture, except the corn was cracked. The corn pellets were ½ in. cubes of corn meal. Alyce clover hay was available to the calves free choice, in addition to the pangolagrass and bermudagrass pastures being grazed by their dams.

Dr. Hentges reports there was little difference in feed utilization or feed cost per 100 lbs. of gain. Larger gains were obtained in the cracked corn lot, he adds, apparently due to a 1.5 lb. per day larger average daily consumption of concentrate.

He points out that the lower consumption of the pelleted corn may have been due to the easier separation of pelleted corn and non-pelleted supplement in the ration of Lot 1. Also, the calves ate cracked corn more readily than pelleted corn at the beginning of the experiment.

In 1958 an experiment was conducted comparing a pelleted feed mixture of 70% yellow corn meal and 30% supplement with a steamed, rolled (flaked) corn and supplement mixture. The pellets were ⅜ in. in diameter.

The calves fed flaked corn gained faster and required less feed per 100 lbs. gain, according to Dr. Hentges. The calves fed flaked corn graded higher on slaughter grade at the end of the experiment and returned $10 per head more than the other lot, he adds.

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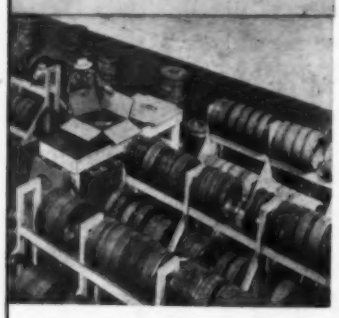

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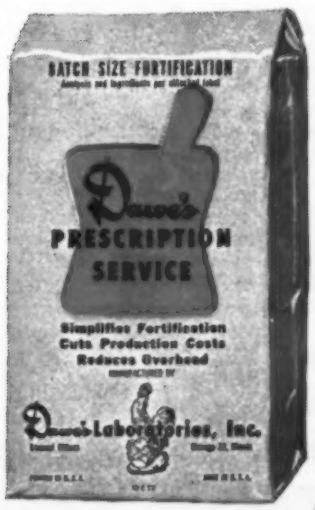

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New Mill's Ingredient Storage In Metal Tanks Above Building

Plant at Olivia, Minn., speeds service, improves efficiency, increases capacity.

By Al P. Nelson
Feedstuffs Special Writer

A new feed mill which has ingredient storage in metal tanks above the building is being operated at Olivia, Minn., by the Osborne McMillan Elevator Co. of Minneapolis.

The formal opening of the mill was held several months ago, with hundreds of farmers attending and being shown through the plant. Many commented favorably on the facilities, and the management of this northwest grain and feed firm also is pleased with the new mill.

There are nine metal bins atop the mill building at the present time, and two more will soon be added, according to Arden Ness, manager.

The largest bin, for bulk soybean meal, holds 28 tons, and the others hold from 6½ tons and up. These other bins are used for whole grains, ground grains and finished feeds. Other ingredients are handled in sacks.

IN OFFICE—Arden Ness (right), manager of Olivia, Minn., feed mill, talks over feed formulas with farmer.

In addition to its grain elevator, the company had a small feed mill before. The new mill was built to speed service, improve efficiency, increase capacity and handle more of the ingredient volume in bulk.

The plant does custom milling and also makes its own brand of mash feeds, using the company's own premixes plus other bulk and sacked ingredients.

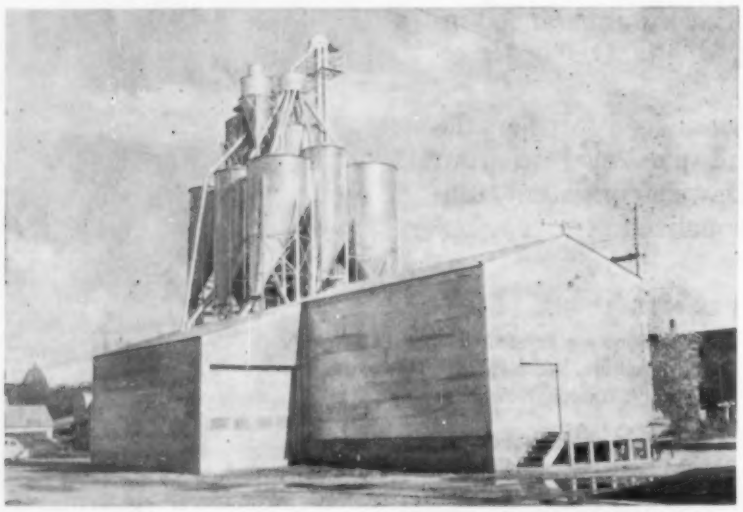
Mr. Ness said that the type of construction used saves space, results in a compact operation and makes control of materials handling easy. He also mentioned that there is less upkeep and other savings with metal bins as compared with wood bins. The only wood in the entire plant is in the office. All of the rest of the construction is steel.

The plant is laid out so that there is an incoming driveway on one side and an outgoing driveway on the other.

The plant was designed and built by Osborne McMillan engineers. Most of the output is swine and cattle feed.

Equipment Described

Equipment in the new mill includes a 2-ton Jacobson vertical mixer, a 3-ton Strong-Scott horizontal mixer, a 75 h.p. Jacobson hammermill with a 25 h.p. fan, a 30-in. Diamond attrition mill and a Shanzer grain drier. The Jacobson mill is used mostly for cow and steer feed, while the Diamond unit is used for poultry and hog feed. Facilities also include a 30-ton Howe truck scale and a 2-ton Fairbanks scale on a specially built hopper for weighing ingredients. A Universal leg is used to elevate grain for grinding and storage.



REAR VIEW—The new Olivia, Minn., feed mill operated by Osborne McMillan Elevator Co., Minneapolis, has nine metal bins atop the building, as can be seen here. This is a rear view of the mill.

Mr. Ness said that one reason why farmers are interested in this mill is that, on custom mixing work, they can see exactly where their grain goes as it comes into the mill to be ground and mixed.

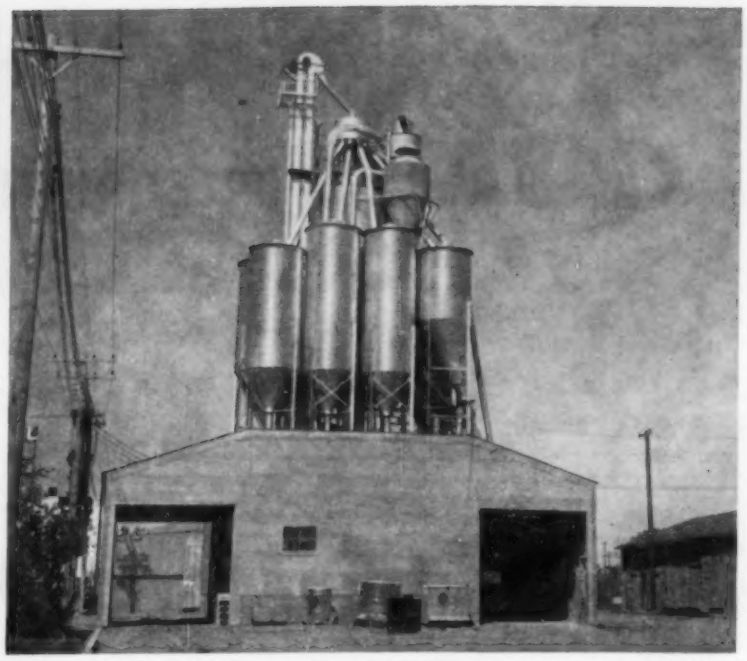
All material comes to the mill in trucks, and a truck dump is used to unload the material. There are two pits. From one, an auger moves ear corn to the hammermill. From the other, an auger moves material into the boot for elevating into bins.

One main leg elevates materials to a distributor, which directs the flow into the bins. There also are two bulk feed legs inside the mill.

In mixing, bulk ingredients are weighed into a hopper scale, using levers to open the bin gates. Sacked ingredients are dumped into a pit. From the scale, ingredients can go into either mixer.

Feed mixed in the vertical mixer can be sacked off from the mixer or is elevated and spouted out in bulk. The 3-ton horizontal mixer is mounted so that one end is inside the building and the other extends out over the driveway. The discharge can be inside for sacking or outside for bulk loading.

An increasing amount of the feed goes out in bulk, Mr. Ness said, and another bulk truck is being added.



FRONT VIEW—This is how the Osborne McMillan feed mill at Olivia, Minn., looks from the front. The plant is laid out so that there is an incoming driveway on one side and an outgoing driveway on the other.

The firm uses liquid molasses in some feeds. The molasses is piped directly into the mixers. There is an extension line out into the load out area, so that quite a few farmers who wish to buy molasses by the pound can get a barrel or more at a time. A Link-Belt pump is used for pumping molasses and there is a meter on the molasses line.

Makes Own Concentrates

This firm makes its own concentrates, according to the Farmwell feed formulas.

The nearby Osborne McMillan elevator has a grain storage of 275,000 bu. which means that the feed mill has available considerable grain for its operations in case farmers seasonally run short for their feed needs.

The feed mill also has a bulk truck and delivers to hog, cattle, poultry and dairy producers. Some of the feed goes directly into open lot feeders, while other feed goes into auger wagons or wooden and metal bins.

"We are operating the feed mill and elevator with three employees, and will add one more," Mr. Ness said. "We are able to shift the services of these men from feed mill to elevator whenever necessary which keeps our per man work production up pretty well."

Rates are 5¢ cwt. for mixing and 10¢ cwt. for grinding. There is a discount of $4 ton on bulk feeds.

The offices and farm supply store of the firm are located in a building adjacent to the grain elevator, with a view of the new feed mill from the manager's office. He can see immedi-

BAGGING—An employee of the mill, formally opened several months ago, bags mixed feed from Jacobson vertical mixer.

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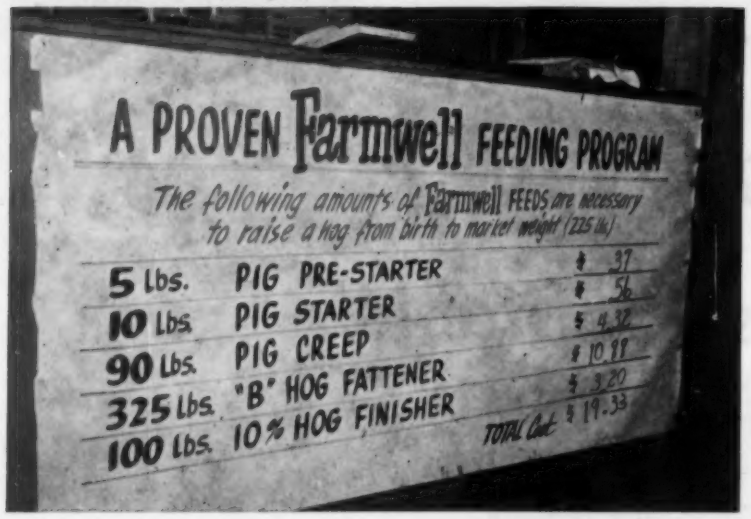
A PROVEN Farmwell FEEDING PROGRAM
The following amounts of Farmwell FEEDS are necessary to raise a hog from birth to market weight (225 lbs.)
5 lbs. PIG PRE-STARTER $ .37
10 lbs. PIG STARTER $ .56
90 lbs. PIG CREEP $ 4.32
325 lbs. "B" HOG FATTENER $ 10.98
100 lbs. 10% HOG FINISHER $ 3.20
TOTAL Cost $ 19.33

CONVERSATION PIECE—This sign on the front of the main order desk in the farm supply area of the new feed mill is an effective feed-seller. Arden Ness, manager, says the sign prompts farmers to ask questions.

ately if a farmer is there for service and can summon an employee to attend to the grinding and mixing operation, in case the workers happen to be in the elevator.

The farm store is neat and well stocked with poultry and livestock remedies and other farm supply items.

An excellent "feed discussion builder" is a sign which Mr. Ness has placed to the front of the main office counter. This sign lists a proven Farmwell feeding program. It tells the farmer that $19.33 worth of feed produced by Osborne McMillan company will raise the pig from birth to 225 lb. market weight.

"This sign certainly causes many farmers to ask questions," Mr. Ness commented. "The copy interests them and then we have a feed discussion going. That's better for us than to have us ask every farmer to use our feeds. We'll do that when necessary, but the sign does a great deal of selling for us every day the office is open. Farmers who stand waiting for service can't help but see the sign and copy and begin thinking about its meaning."

HOPPER—This specially built hopper weighs bulk feed ingredients in the Olivia, Minn., mill. A Fairbanks 2-ton scale is used.

The Olivia mill soon will hire an outside salesman who will call on farmers and talk over their feed needs with them. Mr. Ness feels that this service will enable the mill to give farmers expert on-the-farm consultation concerning feeding programs which produce beef, pork, poultry and dairy products more profitably.

"We try to talk with many farmers who come to the mill about their feeding programs, and can reach some of them," Mr. Ness said. "But an outside salesman can do more. He can visit the farmer, inspect the stock being fed, look over housing and feeding facilities for flocks and herds and make more accurate recommendations for individual farmers. Along with our man-in-the-field program, we also plan to hold more seasonal feeder meetings in various sections of our trade area."

Commodity Market Trend Indicator Made

NEW YORK—A simple trend indicator for commodity markets enabling traders and the general public to see at a glance whether these markets are gaining or losing strength has been developed by the Commodex System, New York.

Company officials said the principles of Commodex, a method for measuring relative velocity of the markets, has been published so that brokerage houses and their customers, "can determine for themselves the market's momentum and thus see what it is likely to do next."

The Commodex System was developed by Edward B. Gotthelf, commodity counsel and publisher, with the research staff of Commodity Futures Forecast. It measures changes in relative price, volume and open interest (the total number of undelivered contracts) as weighted totals. These reflect fundamental factors such as crop production, supplies and government support programs.

This method reduces technical influences on the market to a pair of index numbers. The trend index shows the direction of the market and its momentum. The daily index shows whether the trend is gaining or losing speed.

30 to 1

MANY USERS of 25% antioxidant would be surprised to learn that just a single pound of Koppers Micro-Ground BHT contains as much as 30 TIMES MORE particles of protection than *four* pounds of the 25% BHT with carrier.

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Winners of Larro Recipe Contest Tour Minneapolis

MINNEAPOLIS—Five of the seven national winners of the "Farm Kitchen Recipe Round-Up" sponsored by the Larro feed division of General Mills, Inc., Minneapolis, toured Minneapolis last week as guests of the company. The winners also received $1,000 each.

The tour of Minneapolis was planned in connection with the city's annual Aquatennial festival, and included attending several Aquatennial events and a visit to the Betty Crocker Kitchens and the firm's headquarters building.

More than $17,000 in prizes were awarded for the best recipes prepared from farm products in seven categories—chicken, turkey, dairy products, pork, eggs, beef and lamb. Contestants numbered approximately 29,000.

The winners and their categories are: Mrs. Everett Zimmerman, Baker, Ore., pork; Mrs. C. F. Tucker, Shelby, Ohio, beef; Mrs. Orville H. White, Medaryville, Ind., chicken; Mrs. Wesley Barnett, Newton, Iowa, eggs; Mrs. Carrie Perry, Sebastopol, Cal., turkey; Mrs. Anthony Saccaro, Grand Gorge, N. Y., dairy products, and Mrs. Jesse Dowlin, Rush Hill, Mo., lamb. Mrs. Dowlin and Mrs. Saccaro were unable to make the trip to Minneapolis.

A breakfast in Minneapolis was held for the recipe winners, and was attended by top officials of the Aquatennial, including Miss Sharon Bigalke, Aquatennial queen, as well as representatives of the Larro feed division and members of the press, radio and television.

Speaking before the group, F. W. Budolfson, Larro product manager, discussed the division's efforts to help farmers market top-quality products more profitably, and briefly outlined the work being conducted at the Larro research farm. He also talked about the Betty Crocker Kitchens, and noted that in the Betty Crocker Cook Book there are about 550 egg recipes, 1,000 recipes using dairy products, and 530 ways to prepare meat.

Mr. Budolfson commented that General Mills is making a special effort to help urban cooks share in farm cooking know-how.

Poultry Feed 70% of Alabama's May Total

MONTGOMERY, ALA. — Poultry was by far the largest consumer of manufactured feeds in Alabama during May of this year. Poultry feed volume was 70,793 tons for the month, about 7% greater than the 64,776 tons for May of 1958.

The Alabama State Department of Agriculture & Industries reported feed sales of 99,093 tons for May, more than 11% greater than the 89,627 tons reported for the same month a year earlier. The poultry feed volume for May of 1958 was about 70% of the total.

Decreases were noted in horse and mule feed and dairy feed. Hog feed volume for May of this year was 6,073 tons, compared with 4,425 tons for May, 1958.

N. K. Parrish

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Maryland Firms Ask For Feed Law Relief

BALTIMORE, MD.—Three Maryland Eastern Shore poultry and feed firms recently sought a circuit court ruling that a 1958 state law providing for registration of feed makers and inspection of their products does not apply to certain phases of the plaintiff's business.

Filing the action for declaratory judgment were A. W. Perdue & Sons, Salisbury; the Otis Feed Co., Pittsville; and Whittington Poultry Farms, Marion Station. The Maryland state board of agriculture is the defendant.

The three companies said they sell some of their feeds to the public, and use some for their livestock on their own farms, leased farms or farms where there is a contractural relationship with the owners.

The statute which the court was asked to interpret is the Commercial Feed Act of Maryland.

The plaintiffs alleged that the board, through L. E. Bopst, state chemist, is seeking to compel them to pay inspection feeds on feed manufactured by them but used on their own farms, or leased farms. The suit contended such action was contrary to the intent of the law. The plaintiffs said they had complied with the act insofar as concerns registration and inspection of feed tonnage sold.

It was alleged the board has threatened to cancel the registrations of the complainants if they do not pay for inspection of the feeds which they use for their own livestock.

The companies contended that the law was intended to protect the feed-purchasing public, but that "the manner of enforcement has been distorted to the extent that the same is casting an undue burden on certain segments of agricultural enterprises and is not uniformly applied as to other, although similar, agricultural enterprises."

Appointments Told By Grace Chemical

NEW YORK—Grace Chemical Division of W. R. Grace & Co., New York, has appointed P. Paul Lowery and Joe D. Leeke to the sales staff.

Mr. Lowery is assigned to the Memphis district sales office. He will represent the division in Texas, Oklahoma, Kansas and New Mexico. Prior to his joining Grace in March of this year he was associated with the Chance Vought Aircraft, Inc., in Dallas. Mr. Lowery received a B.S. degree from Stephen F. Austin College, and an M.A. degree from Sam Houston State College.

Mr. Leeke, recently with the sales service department of the division, is promoted to the Memphis district sales office. In his new capacity, he will travel in Tennessee, Kentucky, Missouri and southern Illinois. Mr. Leeke joined the Grace organization in 1954.

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(patent applied for)

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b) Complete control on important rate of application and fumigant distribution.

c) Extra DAWSON 37 always on the job to assure results under adverse weather conditions.

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(patent applied for)

a) The FUMILATOR returns the gas to the bin and passes it through the grain several times.

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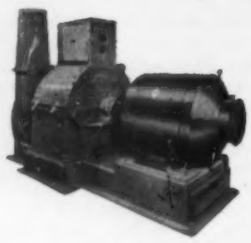

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Write for Illustrated Bulletin

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Feeding Pig Profits Greater on Concrete Than Millet Pasture

GAINESVILLE, FLA.—Millet pasture for growing-finishing swine was unprofitable in experiment at the main station, according to a University of Florida research report.

Workers in the department of animal husbandry and nutrition set up a study to compare rate of gain, efficiency of feed utilization, production costs and carcass characteristics of pigs full-fed on concrete, full-fed on millet pasture and limited-fed on millet pasture.

The researchers calculated that the gross return per head was $9.29, $7.97 and $6.66 for the concrete-fed pigs, full-fed pigs on pasture and limited-fed on pasture.

The pigs—weanlings of mixed breeding—were divided into three lots. Lot 1 was full-fed in confinement on concrete; Lot 2, full-fed on millet pasture; and Lot 3, fed 75-80% of a full ration on pasture. Pigs in Lots 1 and 2 were self-fed, while those in Lot 3 were hand-fed twice daily. The pasture pigs were placed in one-acre plots of Starr millet, and the pastures were cultivated and clipped as needed to insure optimum quality and quantity of forage.

When each pig reached approximately 220 lbs. live weight, it was slaughtered and carcass data were obtained.

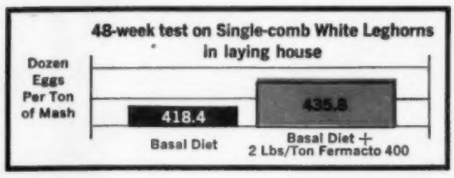
The experimenters report that the pigs full-fed on concrete (Lot 1) gained 1.61 lbs. per day, while those full-fed on pasture (Lot 2) gained 1.54 lbs. per day. This difference was not statistically significant. The limited-fed group (Lot 3) gained at a significantly lower rate, averaging 1.18 lbs. per day.

The full-fed pigs on pasture used only 5.3 lbs. less total feed per pig than those fed on concrete. The limited-fed pigs on pasture required 5.3 lbs. more feed than those fed on concrete to reach slaughter weight.

The researchers point out that, as in previous studies, feed restriction did not increase forage utilization by growing-finishing swine.

Differences in carcass length due to the treatments were small. Both groups of pigs fed on pasture tended to be leaner, as judged by backfat thickness, percent lean cuts and loin eye areas. This was particularly true of the restricted-fed pigs.

Two bits can get your customers 17 extra dozen... that's all it costs to fortify 1 ton of mash with fermacto 400 the unique blend of multiple fermentation factors for complete ugf fortification. Here's proof...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Dozen Eggs Per Ton of Mash
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And for economical production without *over-fortification* try Borden's 300 the balanced laying mash supplement containing fermacto 400 and all essential micronutrients at about $1.25 per ton on an all-mash basis. For *custom* blended micronutrients, too, contact your Borden's field man.

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Laboratories and Test Farms at Elgin, Illinois

N. D. 1958 Feed Sales Reach All-Time High

BISMARCK, N.D. —North Dakota's commercial feed sales in 1958 reached an all time high of 80,395 tons—30% greater than the 1957 total of 62,047 tons, according to a report of the State Laboratories Department.

Swine feeds, which made up approximately 37% of the total showed an increase of 58% over 1957. Beef and cattle feeds accounted for 22% of total sales in 1958, and gained 41% in volume over the previous year. Poultry feeds constituted 26% of the total volume and decreased about 4% during this same period.

The largest tonnage reported by North Dakota in the past 10 years prior to 1958 was 65,000 tons in 1955.

North Dakota Commercial Feed Sales, 1958

	Pounds
Poultry feeds:	
Chicken feeds (complete feeds)	20,915,480
Chicken feeds (supplements)	7,566,150
Turkey feeds (complete feeds)	8,378,900
Turkey Feeds (supplements)	5,139,620
Swine feeds (complete feeds)	53,411,840
Swine feeds (supplements)	5,510,110
Beef cattle feeds (complete feeds)	10,648,780
Beef cattle feeds (supplements)	11,726,300
Dairy feeds (complete feeds)	4,339,350
Dairy feeds (supplements)	4,648,550
Calf feeds	3,632,280
All-purpose feeds	1,584,420
Dog and cat foods (dry)	1,522,480
Dog and cat foods (canned)	1,347,460
Other animal feeds	1,465,980
Beet pulp	2,153,650
Soybean oil meal	538,000
Meat and bone meal	558,000
Wheat by-products	228,800
Mineral feeds	1,951,890
Iodized salt	538,740
Sulphurized salt	347,450
Mineralized salt	6,883,700
Oyster shell	5,752,400
Total pounds	*160,790,330

*Tonnage tax paid on this total.

FEED MAN DIES

ALBANY, ORE.—Lewis Carpenter Morse, Sr., 63, retired partner in Morse's Feed & Seed Store, passed away recently of a heart attack. His death occurred while he was visiting his brother in Santa Rosa, Cal.

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FROM GRASS-ROOT SOURCES
DONALD MACKAY, MT. CARROLL, ILLINOIS

Pioneer Stilbosol feeder tells why he is "more sold than ever"

One of earliest users of supplements with Stilbosol lists continuing benefits of gain-booster for heifers and long-fed steers

Four years ago, Donald Mackay was among the first feeders to be granted permission to feed Stilbosol supplement to an experimental lot of cattle. His test steers put on 3.46 pounds daily . . . the biggest gains Mackay had ever seen in his 26 years of feeding cattle.

Since then, Mr. Mackay has fed Stilbosol feeds to more than 4,000 head. His experience should be of particular interest to you in helping your customers to bigger feeding profits with your Stilbosol-fortified supplement.

Long-fed steers average 3 pounds gain

In a recent interview, Mr. Mackay said, "We've been averaging three pounds daily gain or better on our steers when they've been fed long feeds from 240 to 270 days. Stilbosol has given us up to ½ pound more daily gain. Before using Stilbosol, a bunch of steers had to do well to put on 2½ pounds daily under the same feeding conditions."

Stilbosol feeds profitable for heifers, too

"We've probably fed Stilbosol supplement to 1,500 market heifers since we started using it," Mr. Mackay continues; "and we've found we get comparable results here, too. On both steers and heifers, I'd say we've averaged about 16% extra gain by using Stilbosol . . . and we've cut our cost of gain by about 12%."

College tests support feeder loyalty*

Fact #1. *Stilbosol has been tested by more colleges than any other additive.*

Fact #2. *The performance record of Stilbosol is the highest of all additives tested.*

Fact #3. *Stilbosol returns an average of $45 for each dollar invested, as compared with an approximate 5:1 return for the next highest additive.*

Colleges and experienced feeders know that Stilbosol works for better gains and greater feed efficiency every day it is fed . . . on both heifers and steers. Do your customers take your cattle supplements with Stilbosol for granted? These facts will help you to keep on selling the important benefits of your products.

This feedlot is part of Mackay's 860-acre operation. He also owns and operates a ranch in Montana that produces 300 calves a year.

*As reported by Iowa State College, Cattle Feeder Day, March, 1959

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Procaine-Penicillin-G • Vitamin B_{12}
Micro-Pen™ (special coated procaine penicillin G, Lilly)

ELI LILLY AND COMPANY, AGRICULTURAL AND INDUSTRIAL PRODUCTS DIVISION, INDIANAPOLIS 6, INDIANA

Feed Advertising Problems Discussed By New Council

KANSAS CITY—Further organization steps were taken and certain problems and developments in connection with feed advertising when the new Midwest Feed Advertsing Council held its second meeting recently in Kansas City. The meeting was attended by feed manufacturers advertising representatives from six states.

The council activity is sponsored by the Midwest Feed Manufacturers Assn. The principal objective of the group, as outlined in the official objectives adopted at the meeting, is to provide a means of assembly for feed advertising managers and/or their delegated advertising agency representatives in the Midwest area. The purposes of such an assembly, it was stated, are to provide an exchange of ideas on common advertising problems, ways and means of furthering truth and accuracy of feed advertising, and work toward a clearing house to evaluate and disseminate new regulatory data, new feeding discoveries and other information of interest to members.

Vernard E. Lundin, director of advertising and public relations for Hubbard Milling Co., Mankato, Minn., is temporary chairman of the council. Permanent officers are to be elected at the time of the Midwest convention next February. Membership in the council is to include active members (adveritsing managers or those responsible for advertising of active MFMA firms) and associate members (advertising or public relations agency representatives of active MFMA firms).

Committee chairmen are: Organization, Harvey Bergren, Pay Way Feed Mills, Kansas City; current feed advertising, W. G. Cook, Walnut Grove Products Co., Atlantic, Iowa; dealer advertising, O. L. Miller, Supersweet Feeds, Des Moines; public relations, Ray Van Poucke, Ames (Iowa) Reliable Products Co.

Committee Reports

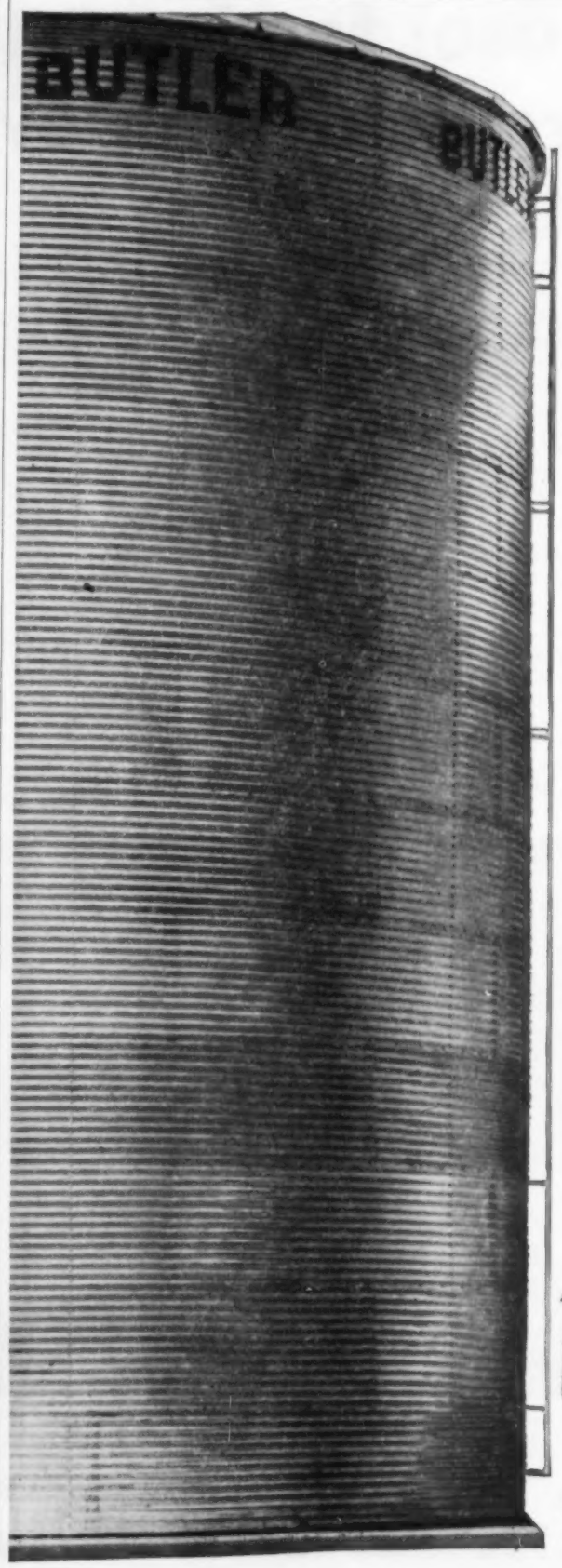
Reporting on activities of the committee dealing with current feed advertising in farm papers, Jack Dow of The Dow Agency, Omaha, said that the committee had studied five recent issues of Wallace's Farmer. There were 36 ads by feed or ingredient firms. Of these, 14 ads by 10 firms made no specific claims and gave no percentages or comparisons; five ads by four firms did make specific claims but backed them up with believable proof, he said. Fourteen ads by nine advertisers made comparative claims (costs or percentages) which the committee felt could not be duplicated under average conditions. Three ads from one firm made unsubstantiated claims for unspecified ingredients. Each firm stayed within the same category in all ads reviewed.

"The committee felt," Mr. Dow reported, "that ingredient manufacturers were more prone to make unbelievable claims than were feed manufacturers. The testimonial advertising included was considered a good way of making specific claims, but the fact that only successful testimonial-givers would be used in such advertising was also pointed out, with the same results perhaps unachievable by producers at different economic levels. Monitoring of radio and TV feed commercials showed nothing objectionable and was, in the opinion of the members, very clean."

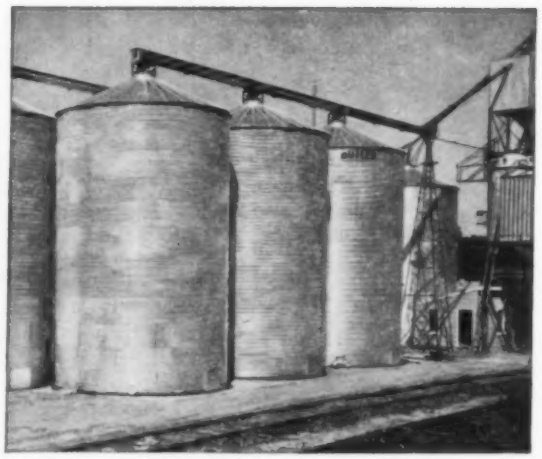
Mr. Lundin requested the committee to make a formal report on its investigations, plus a similar study of ads run 18 months ago for comparison to see if much unsubstantiated advertising had dropped off, as those present suggested.

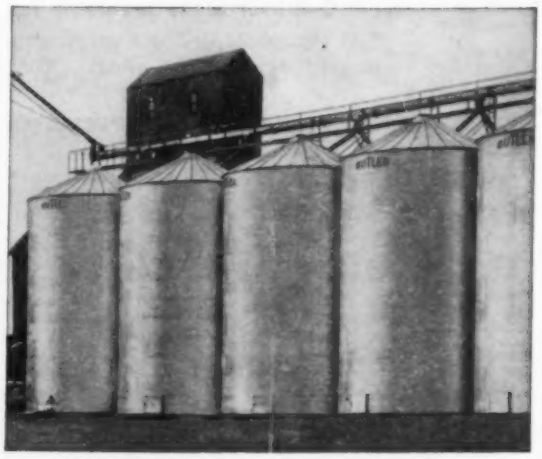
Reporting on dealer advertising, Mr. Miller said the main yardstick here is: "Is it truthful? Can it be substantiated?" He said that unbelievable statements in advertising to dealers, open to criticism because of a documentation, not only water down the effect of each ad but tend to reflect on all industry advertising (reference was made to use of an agricultural professor's first findings

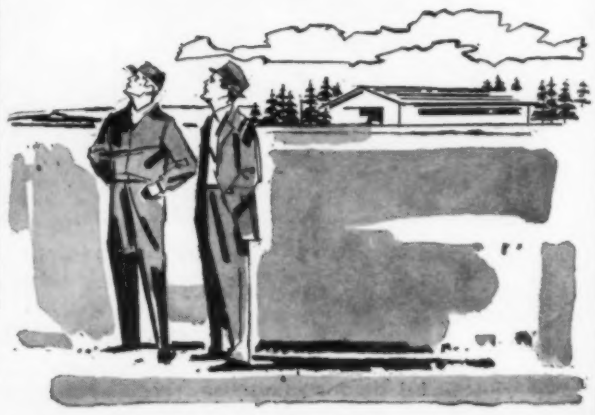
ADVERTISING COUNCIL—Pictured here are the temporary chairman and committee chairmen of the new Midwest Feed Advertising Council. Left to right are O. L. (Dell) Miller, Supersweet Feeds, Des Moines, chairman of dealer advertising; Ray Van Poucke, Ames (Iowa) Reliable Products Co., public relations chairman; Vern Lundin, Hubbard Milling Co., Mankato, Minn., who was elected temporary chairman of the council; W. G. (Bill) Cook, Walnut Grove Products Co., Atlantic Iowa, chairman of current feed advertising committee, and Harvey Bergren, Pay Way Feed Mills, Kansas City, chairman of organization.



Butler







before they had been substantiated by general tests).

Federal Trade Commission kickbacks on brand names and decriptions were mentioned; disapproval and cease-and-desist orders follow use of terms indicating a "good percentage" of some ingredient if there is less than FTC thinks there should be in the feed; yet there is no authority for determining a necessary percentage before the fact.

Mr. Miller said the industry as a whole may prefer not to have such hard and fast rules as the dog food industry, for example, now has, but the committee felt that an information program for members along these lines would be of value.

The possibility of setting up some type of "bureau of standards" for the industry was presented. Such a group would make an effort to control unbelievable claims, with possibly a board of experts to pass on such copy, Mr. Miller indicated. Or, possibly, he said, some attention to this subject might be given by feed publications themselves. Claims from agricultural chemical firms, for example, might be so examined before such claims were incorporated into feed advertising, according to the committee report.

Public Relations

One purpose of the public relations committee, Mr. Van Poucke told the group, is to study information on feeds, nutrition, management, etc., being presented to the farmer by colleges and agricultural publications. He said a continuing study will be made of current information coming from these sources, along with direct mail used by feed manufacturers themselves, and television and radio scripts. On evaluating this material, an attempt will be made to coalesce specific recommendations.

"It is in large part an educational problem," Mr. Van Poucke said. "We must work with the trade press and with the schools to clarify the facts about formula feeds and feed manufacturers."

The council also had an extended discussion of difficulties in getting the attention of farm paper editors. Those present indicated interest in having the group work toward a better understanding along these lines.

Ray Ammon, The Quaker Oats Co., St. Joseph, Mo., former MFMA president, said the Midwest association was "proud to spearhead this further project for the general good." He said he felt that a substantial start had been made, particularly in public relations.

Mr. Ammon said the existence of the council would act as a deterrent to questionable advertising. He said that the advertiser might think, "If all of these people are going to be looking at my ads, I want to be sure they're right."

The council will hold its next meeting Sept. 7 at the Sheldon-Munn Hotel in Ames, Iowa, in connection with the Iowa College-Feed Industry Conference at Iowa State College.

Additive Comparison Reported by Illinois

URBANA, ILL.—Stilbestrol, one of several feed additives for fattening cattle, was described recently by T. R. Greathouse, University of Illinois extension livestock specialist, as having given "the most consistent benefit of all feed additives tested in recent years."

He said stilbestrol has produced an average response of 18% in weight gain. This result, according to Mr. Greathouse, compares with 4% for antibiotics, 11% for tapazole and 12% for enzymes.

On the average, he reported, stilbestrol-fed cattle require 12% less feed, while tapazole saves 6% of the feed and antibiotics, 3%.

Mr. Greathouse gave the following brief summary of feed additives other than stilbestrol that have been under test:

"Antibiotics: The biggest problem of antibiotics is their lack of consistent benefit in various feeding trials.

"Tapazole: Tapazole's advantage is greatest if fed only during the last 30-60 days of the fattening period. It is not available on the market, though.

"Enzymes: These additives are new and they produce no response in cattle on high-moisture grain-type rations. More work is needed to justify use of this additive.

"Live rumen culture: In general, use of this additive has failed to demonstrate any advantage in average daily gain and feed efficiency.

"Chemobiotics: Results of this additive have varied. On the average, it has proved less efficient than antibiotics.

"Tranquilizers: The average experimental results with this additive have not shown an improvement in average daily gain or feed efficiency in the fattening ration."

Pelleting Mill Opened

PRINEVILLE, ORE.—Ochoco Feed & Farm Supply, Prineville, celebrated the completion of its hay and grain pelleting mill with an open house recently. George Wittmer and Mac Sinclair, owners of Ochoco Feed, are associated with Ed Albertson in the pellet mill.

Services to be offered will include custom pelleting for hay and grain. There will be bulk delivery service, with a new and larger unit for pick-up and delivery.

GIANT bins

THE SAFEST LOW-COST BIN STORAGE YOU CAN BUY

Butler Giant Bins are tops for storage . . . from 18 feet to a giant 36 feet in diameter . . . and stand up to 40 feet high at the eave! The biggest Butler bin holds over 36,000 bushels.

Buy lowest-cost storage from Butler . . . Store grain safe from weather, fire, infestation—at a cost-per-bushel no other bin storage can match. Butler Giant Bins are easy to aerate, easy to fumigate, easy to clean and maintain. Any size can be offered with automatic handling equipment, too!

Choose any size combination . . . Butler Giant Bins come in a wide range of sizes. This lets you build storage to *fit your specific needs.* It's easy to segregate, condition and store various types and grades of grain. Hotspots can be controlled by moving only a few hundred bushels, instead of many thousands.

Get better Butler construction . . . Butler Giant Bins are designed and built of extra-heavy galvanized steel to contain the tremendous pressures of stored grain. Bin-for-bin and bushel-for-bushel, Butler Giant Bins are heaviest in the grain bin industry . . . designed and engineered for safest storage and long life.

Buy Butler versatility . . . Butler Giant Bins permit segregated storage at low cost. And, because of bolted construction, they can be relocated – where and when you want.

If you need big, low-cost grain storage, get the facts on Butler Giant Bins before you spend a dime! For complete details fast, contact your nearby Butler Dealer, Butler Builder or Butler Contractor. Or if you wish, write directly to us at the office nearest you.

Diameter	Height (eave)	Capacity* (bushels)
21	18'8"	5,700
21	32'	9,600
24	16'	6,700
24	18'8"	7,700
24	21'4"	8,700
24	24'	9,700
24	32'	12,700
24	40'	15,700
27	24'	12,490
27	32'	16,300
27	40'	20,100
36	24'	22,700
36	32'	29,600
36	40'	36,400

*Maximum capacity is determined by adding grain compaction factor, based on 60# wheat or beans to cubic measure, and filling under roof above eave. Compaction factor will vary by the test weight, type of grain and depth of grain stored.

BUTLER®

BUTLER MANUFACTURING COMPANY

Dept. 402, P.O. Box 7027, 1020 East 63rd Street, Kansas City 13, Missouri
902 Sixth Avenue, S.E., Minneapolis 14, Minnesota
1012 Avenue W, Ensley, Birmingham 8, Alabama
Dept. 2, South 27th Street and Butler Avenue, Richmond 1, California

Manufacturers of Equipment for Farming, Oil Production and Transportation, Outdoor Advertising • Metal Buildings Contract Manufacturing

Factories at Kansas City, Missouri • Minneapolis, Minnesota • Galesburg, Illinois • Richmond, California • Birmingham, Alabama • Houston, Texas Burlington, Ontario, Canada

Syntha
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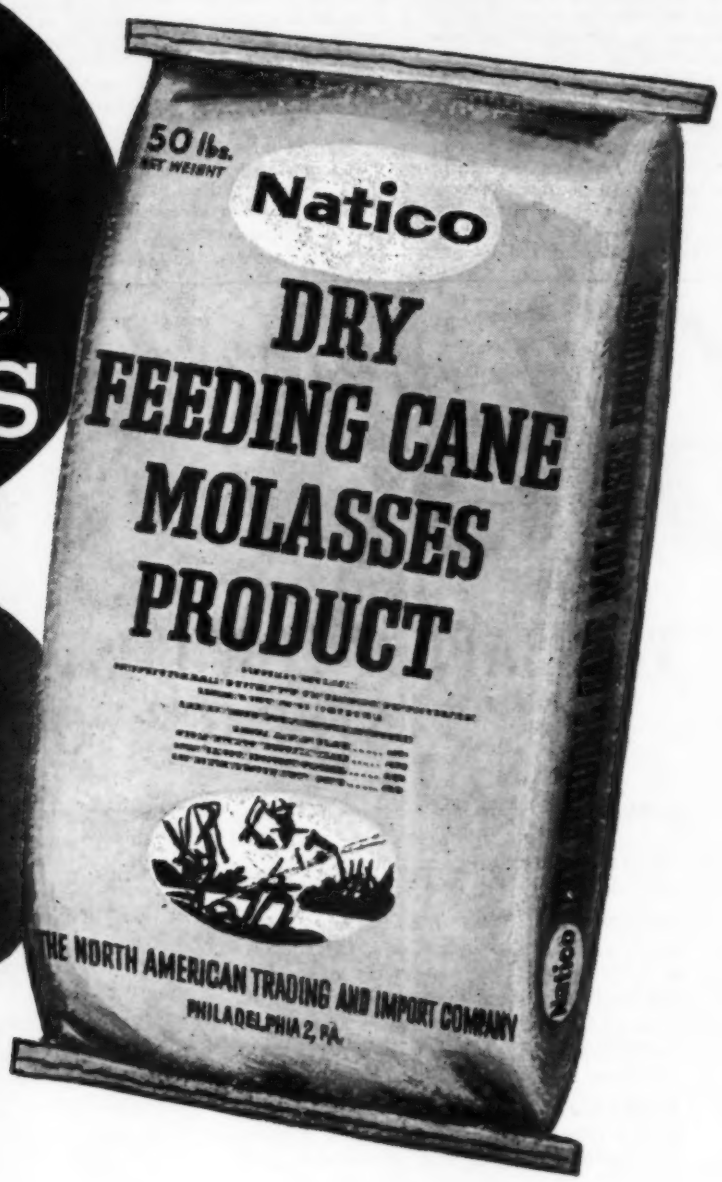
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

RILEY Feed Company
BROKERS— COMPLETE LINE OF FEED INGREDIENTS
839 BOARD OF TRADE KANSAS CITY 6, MO. BALTIMORE 1-2960

WATCH FEEDING COSTS GO DOWN WITH THIS RICHER DRY MOLASSES

Natico
DRY
Feeding Cane
MOLASSES
Product

100%
BLACKSTRAP MOLASSES!



Now—add the richest dry molasses to your feed! NATICO, the all sugar-cane molasses product. NATICO adds attractive new color and fragrance to feed, even makes dry home-grown grains and roughages tastier to livestock. Try it and watch feeding costs go down while feeding efficiency goes up. Remember—something wonderful happens when you add NATICO!

FOR BEEF AND DAIRY CATTLE, SWINE, POULTRY

Natico

Product of
THE NORTH AMERICAN TRADING & IMPORT COMPANY
World's Largest Importer of Cane Molasses
1429 WALNUT STREET • PHILADELPHIA 2, PA.

MIDWEST SALES AGENT—The North American Trading and Import Co., 101 Arsenal St., St. Louis, Mo. Tel.: PRospect 6-0858
SHIPMENTS FROM PHILADELPHIA, PA., AND GRETNA, LA.

J. W. Hasler C. W. Klinger

STAFF APPOINTMENTS — Two sales staff appointments have been announced by McMillen Feed Mills, Ft. Wayne, Ind. Charles W. Klinger has been named production coordinator on the feed sales staff. Mr. Klinger's responsibilities will include authorizing and registering feeds as well as other staff duties. A 1950 graduate of Indiana University with a B.S. degree in marketing, Mr. Klinger joined McMillen Feed Mills as assistant advertising production manager in 1953. The following year, he was named advertising production manager, and in 1958 was named assistant advertising manager. Joseph W. Hasler will succeed Mr. Klinger as assistant advertising manager. Mr. Hasler will assist with the creation and administration of Master Mix advertising programs, as well as other staff duties. Mr. Hasler is a 1956 graduate of Purdue University. He was an assistant territory manager for the firm from 1956-57, and became an administrative assistant in the sales department in 1957.

More Weight Lost by Tranquilized Calves

COLLEGE STATION, TEXAS — Tranquilized beef calves in a weaning test at Texas Tech College's Pan-Tech Farms lost slightly more weight than non-tranquilized calves, although they were quieter and walked the fences less.

The tests were made on 42 Hereford steer calves which were weaned Nov. 12, 1958. Twenty-one received intramuscular injections of 50 mg. of perphenazine each and the remaining 21 were left as controls with no injections.

The calves were kept in a corral and were fed 10 lb. of sorghum fodder, 2 lb. of oats and ½ lb. of cottonseed cake per head per day. There was no difference in the amount of feed consumed by the two groups.

Individual weights were taken as the calves were placed on wheat pasture after nine days in the corral. The calves were weighed again individually after 12 days on wheat pasture. The average weight on the non-tranquilized calves Nov. 12 was 504 lb., the average weight Nov. 21 was 484 lb., giving a 9 day shrink of 3.97%. The average weight Dec. 3 was 503 lb. and at the end of 21 days the shrink was 0.20%.

The average weight of the tranquilized group Nov. 12 was 512 lb. and Nov. 21, 420 lb., giving a 9 day shrink of 6.25%. Their average weight Dec. 3 was 507 lb. and at the end of 21 days they had a shrink of 0.98%.

KAFIR & MILO
Largest Dealers in Southwest
MID-CONTINENT GRAIN CO.
Board of Trade Victor 2-4671
KANSAS CITY, MO.

LONFOSCO Soft Phosphate with Colloidal Clay
Prepared by: Loncala Phosphate Co. High Springs, Fla.
Distributed by: Warren-Douglas Chemical Co.
1513-15-17 Burt St., Omaha, Neb.

Two Milling Firms to Make Isolated Protein

MINNEAPOLIS, MINN. — A joint venture agreement for the production and marketing of an isolated soybean protein of unique properties has been announced by the J. R. Short Milling Co., Chicago, and General Mills' oilseeds division, Minneapolis. The announcement was made jointly by Charles H. Bell, president of General Mills, Inc., and J. R. Short, Jr., president of the J. R. Short Milling Co.

"The process for producing this unique pure protein was developed after many years of research," Mr. Short said. "It is our opinion that our isolated protein has superior qualities which will be of interest to the food industry. We intend to introduce this product to the baking trade as well as other food markets."

Mr. Short said the protein, which is both light in color and bland in flavor, will be of particular interest to the baking industry, as it may be used in large concentrations in baked products without materially affecting the physical properties of the finished product. At the same time it can make a significant contribution to the nutritional value of baked foods, according to Mr. Short.

S. D. Andrews, vice president of General Mills and general manager of the oilseeds division, said the agreement is effective at once. "Production on a limited scale will start as soon as possible, and future plans call for a commercial plant at one of the company's soybean plants.

General Mills' oilseeds division has soybean plants at Belmond, Iowa, and Rossford, Ohio, which produce soybean flakes, the primary raw material for manufacturing the isolated protein.

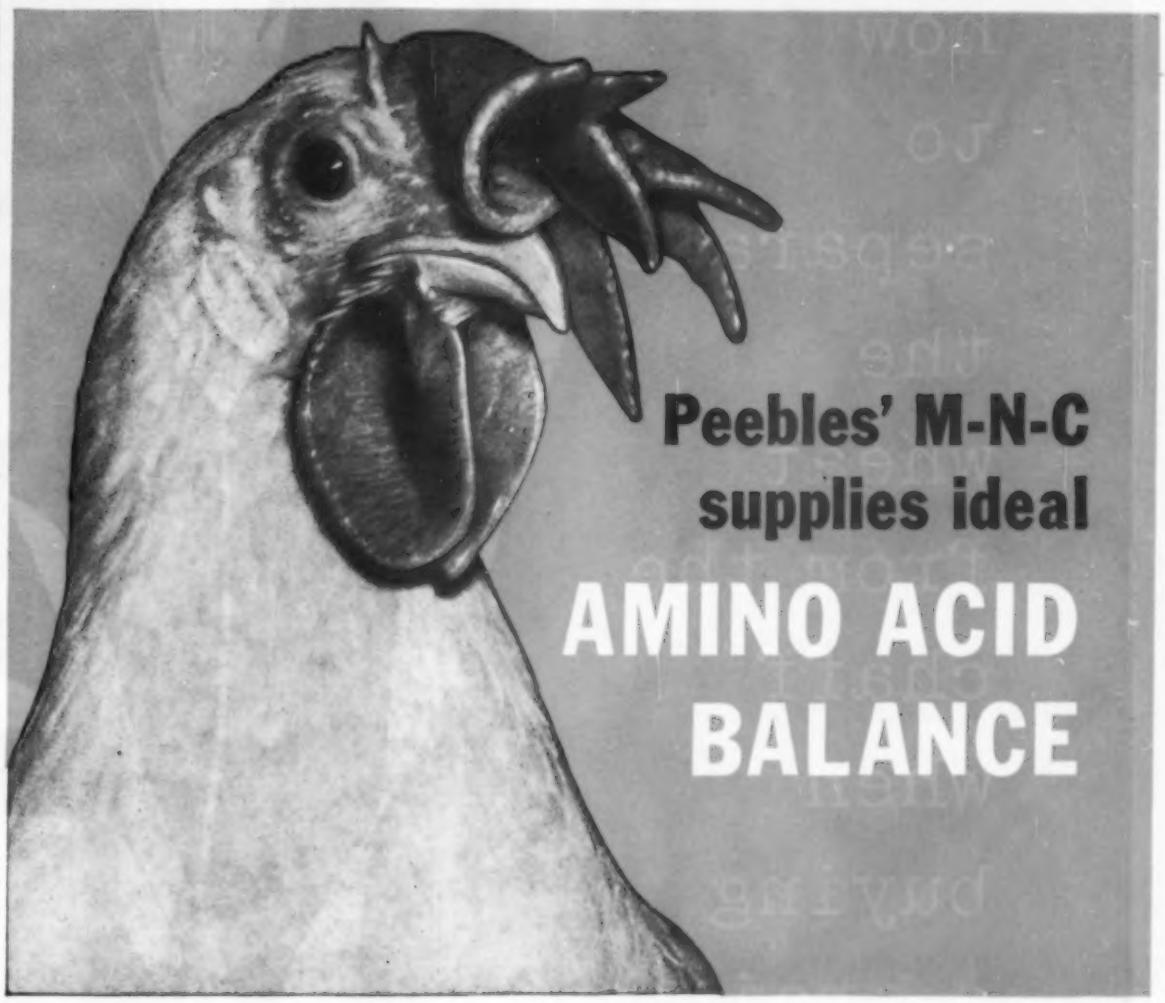
Soybean meal is 44% protein, but this new process developed by the J. R. Short Milling Co., produces a 100% protein, according to Mr. Andrews.

N. H. Poultry Meeting Aug. 12

NEWBURY, N.H. — The New Hampshire Poultry Growers Assn. has scheduled a summer meeting at Mt. Sunapee State Park, Newbury, Aug. 12. The meeting is sponsored by the poultry association and the cooperative extension service.

The one-day session includes a panel discussion on, "How Can We Compete in the Poultry Business?" Sen. Norris Cotton is tentatively scheduled to discuss, "What's Going On in Government that Will Affect the Poultry Industry?"

James Timberlake, executive secretary, quality egg council of the New England Egg Producers Assn., will talk on "What's Going On in Quality Egg Programs?" "Automation in the Poultry Business," will be discussed by Wally Newman, Tom's River, N.J., eastern regional manager, Big Dutchman.



Improves nutritional value and feed performance!

Here's the best way to step up the efficiency of your feeds. Incorporate Peebles' M-N-C (partially delactosed whey-product). For M-N-C gives you the vital amino acid balance that makes protein function with maximum effectiveness. M-N-C offers you the perfect, low cost source of the 12 essential amino acids.

In addition, M-N-C is concentrated to give you, pound for pound, 50% more non-lactose nutrients. Just 2% M-N-C supplies the same amount of Whey factor and other growth-promoting elements as 3% whole dried whey.

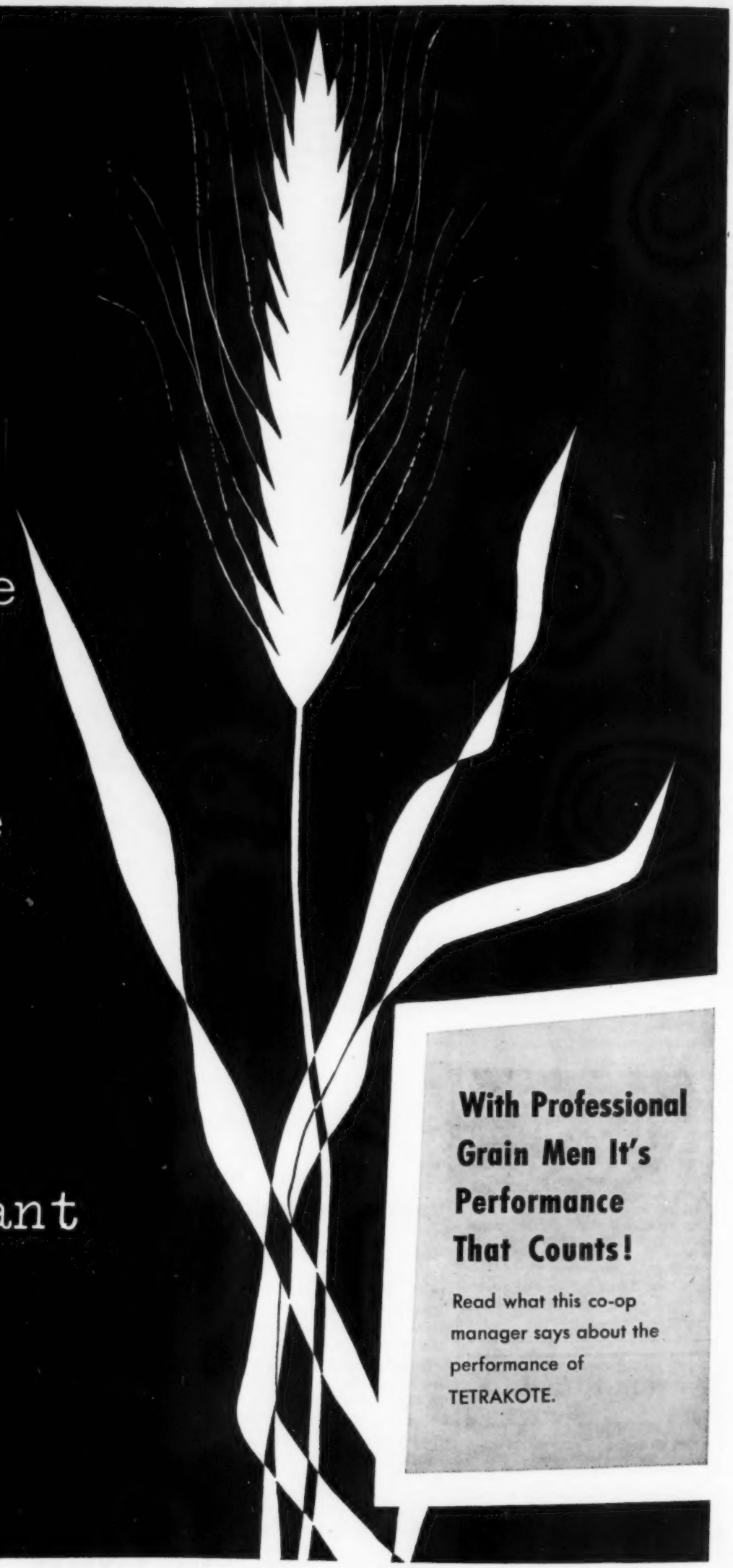
Peebles' exclusive spray-dried process assures uniform high quality. M-N-C's smooth, even texture provides uniform color and even distribution in mixed feeds.

Find out how M-N-C can answer your amino acid requirements and give your feeds added nutritional value. Write or wire today for complete information.

WESTERN CONDENSING COMPANY
APPLETON, WISCONSIN
World's Largest Producer of Whey Products

32 PLANTS *Coast to Coast*

how
to
separate
the
wheat
from the
chaff
when
buying
a grain
protectant



With Professional Grain Men It's Performance That Counts!

Read what this co-op manager says about the performance of TETRAKOTE.

Warren Crandell, manager of the Farmers Co-op in George, Iowa writes ... "While manager of the Farmers Coop. Assn. at Larchwood, Iowa, I treated 100,000 bushels of corn with TETRAKOTE in September of 1957. To this date the corn is in good condition.

I am now manager of the Farmers Coop. Company in George, Iowa. In September of 1958, I used TETRAKOTE on 100,000 bushels of corn. To date it is in excellent condition. I plan on using TETRAKOTE on 180,000 bushels of corn in September of this year.

I believe that, for grain stored on a long-term basis (over 8 months), it is by far the most economical type of protection available today ... in short, I'm sold on TETRAKOTE. I've learned that you can depend on Douglas grain sanitation products. I've used them since 1946 and find they do everything you say they will do."

Is your present grain protectant doing this kind of a job for you? Are you getting your money's worth?

If not, why not follow the example of professional grain men all over the country who rely on low-cost TETRAKOTE. Use it for long-term protection of your grain against bug infestation. When the golden flood of this year's harvest comes your way protect it right from the start with TETRAKOTE.

Grain Sanitation Division

Douglas Chemical Company

620 East 16th Avenue, North Kansas City, Missouri

F-10

Cash in

PILOT BRAND OYSTER SHELL

You can always count on fast turnovers and good profits when you stock and display PILOT BRAND Oyster Shell. That's because poultrymen everywhere have learned that hens produce more eggs with stronger shells when PILOT BRAND Oyster Shell is in the hoppers.

This year 'round, nation-wide demand—constantly stimulated by advertising in leading farm and poultry journals and on 70 radio stations—makes your selling job easier. It pays to push PILOT BRAND—the largest selling eggshell material in the world.

Order from your distributor or write to us

PILOT BRAND OYSTER SHELL FOR POULTRY

Oyster Shell Products Company
Mobile, Alabama

FOR BEST SERVICE ON VITAMINS A & D

ALL TYPES — ALL POTENCIES
PLUS
PREMIXES

Call

RUDY ESCHENHEIMER COMPANY

BOX 147
CHILLICOTHE
MISSOURI
PHONE 1047

Serving the Feed Trade For Over 20 Years

MINK FOOD—A fashionable future for young mink is seen by Nutrena Feeds' Howard Seurer, shown checking condition of a summer coat by blowing along animal's back. Mr. Seurer, charged with mink food sales for the firm, says a newly introduced cereal-type product, formulated to help cut mink production costs by augmenting high-priced meat diets, "will aid in turning thin summer coats into prime, dense fur valued in mid-winter mink." Mr. Seurer wears heavy leather mitts to protect against razor-like teeth and claws.

Nutrena Introduces New Mink Food

MINNEAPOLIS—A new cereal-type mink food, developed to help reduce production costs by augmenting costly meat diets, has been introduced in an eight-state area by Nutrena Mills, Inc., animal feed manufacturer headquartered here.

Ralph B. Hollingsworth, general manager, said, "Mink production costs are going up steadily with fully one-third of operating expenses tied up in feed, primarily in high-priced meat products. Nutrena's new cereal, a precise balance of vitamins, minerals and other nutrients normally available only from meat products, will help reduce costs while maintaining full production of high grade pelts demanded by processors and consumers."

Mr. Hollingsworth said sales will be directed by mink specialist Howard M. Seurer who will also provide on-ranch consulting service, helping to program handling, feeding and general care.

The Nutrena formula, field tested in the past year on ranches in Minnesota, Wisconsin and Missouri, will be manufactured in three forms: A vitamin-mineral fortified mix with antibiotics, a fortified mix without antibiotics and a straight cereal mix to be used as a quantity supplement for blends already containing sufficient nutrients and medicants.

Mr. Hollingsworth said the product will be marketed in Wisconsin and Minnesota—the nation's leading mink producing states—and in Illinois, Iowa, Missouri, North and South Dakota, and Colorado. Distribution will be through Nutrena's present dealer organization.

Firms to Donate Prizes

DURHAM, N. H. — Several feed manufacturing firms will donate prizes to be awarded at the coming second annual Granite State Dairy Jubilee, according to a recent announcement by Hilton Boynton of the New Hampshire Purebred Dairy Cattle Assn., which will sponsor the event.

One of the awards to the grand champion females in each show will be provided by the Worthmore Feed Co., while some will be donated by the Beacon Milling Co. and General Mills, Inc.

Quaker Oats Division Sales Manager Named

CHICAGO — The appointment of Earl K. Herndon as sales manager of the farm industries division of The Quaker Oats Co. in Decatur, Ala., has been announced by I. S. Riggs, vice president.

In his new position, Mr. Herndon will be responsible for the sale of all poultry meat products for the Decatur plant, and will report to C. Glenn Bryan, general manager of the farm industries division.

A native of Springfield, Tenn., Mr. Herndon joined farm industries as a salesman in 1947. Prior to his recent promotion he was manager of the Nashville, Tenn., branch office of farm industries.

Mr. Herndon is a charter member of the Tennessee Poultry Federation; vice president of the National Poultry, Butter & Egg Assn.; a member of the Southeastern Poultry & Egg Assn., and the Poultry & Egg National Board.

NATIONAL IDEAL
appointed sole distributor
HYGENO LITTER

The ONLY Litter with PATENTED Feature for DISEASE CONTROL

- DUST-FREE
- ANTISEPTIC

HIGHLY ABSORBENT, TOO!
Respiratory disease goes down when HYGENO is spread on the brooder house floor. Chick mortality drops, too! Heaviest advertising campaign in 25-year Hygeno history will tell this story to poultrymen for you.

HYGENO DOES MORE

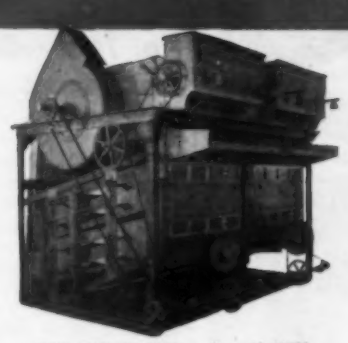
- Dust-free
- Antiseptic
- Treated for fire resistance
- High absorbent
- Discourages litter picking (cause of disease in other litters)
- Covers Economically

HYGENO PAYS YOU MORE
• BETTER MARGIN • COSTS LESS
• BUILDS REPEAT CUSTOMERS

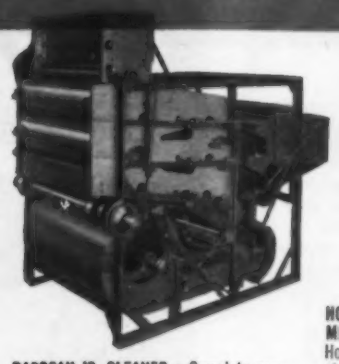
GET THE FRANCHISE!

Write for Carload Prices

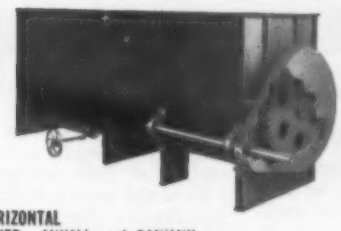
THE NATIONAL IDEAL CO.
TOLEDO 6, OHIO



TWIN SHOE CLEANER • Over 40 SIZES in 3 & 4 screen, 2 air Standard and Special Models. Capacities to 6000 bu/hr.



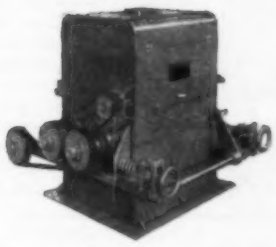
BARBEAU JR. CLEANER • Complete compact system. Ideal for small operators.



HORIZONTAL MIXER • MIXALL and SANIMIX Horizontal Mixers — 27 models, standard, heavy-duty and sanitary plus custom-built.

VERTICAL MIXER • Capacities from ½ to 4 tons and more per batch.

the right place to look for a better buy!



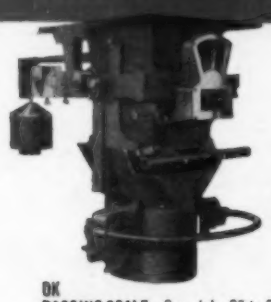
OAT CRIMPER • 5 sizes from 5 to 200 bu/hr. capacities.

SNAPPY SHAKER • 7 sizes in choice of 1 or 2 deck models.

DUPLEX MIXER • Choice of sizes, to meet your capacity requirements.

RECEIVING SCALPER • 11 sizes, 1 & 2 screen models. Wide range of capacities.

NO OTHER EQUIPMENT DOES SO MUCH...SO LONG...FOR SO LITTLE



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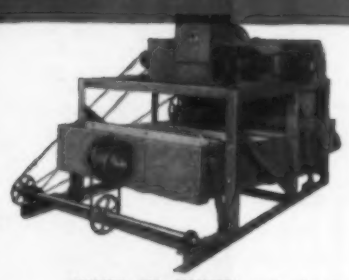

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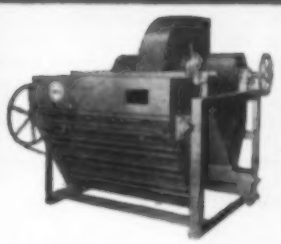

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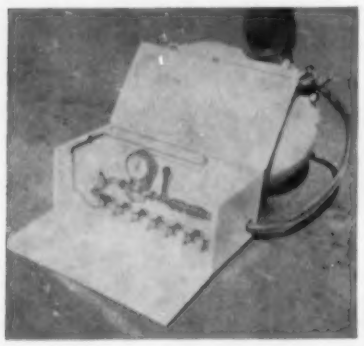
No. 7602—Bulk Fumigant Applicator

A new Dawson bulk fumigant applicator is being introduced by Ferguson Fumigants, Inc., for the application of its 37 fumigant mixture into grain bins, cereal processing plants and warehouses. It is associated with a large bulk tank semi-trailer for over-the-highway delivery to a central storage point where it is transferred into large storage tanks. From the tanks it is transferred to the applicator by a method similar to that used in the bulk distribution of LP



gas. From the bulk tank on the applicator, which can be mounted on a small trailer or truck, liquefied gas passes through a meter that records directly in pounds, the amount of fumigant applied. According to the company the ability to control application rate is important in connection with the fumigation of bulk grain bins. The company can adapt the applicator assembly to any size tank the custom fumigator may require, including setting up the equipment for the largest fumigation jobs which might require up to 30,000 lb. of fumigant for a single grain bin or for a number of large grain storage buildings in the same location. For further information, check No. 7602 on the coupon and mail to this publication.

No. 7603—Feed Fat Bulletin

A bulletin entitled "Fat Handling Equipment and Maintenance" has been published by the Procter & Gamble Distributing Co. Included in the bulletin are sections on storage tanks, pipe lines, pumps, metering devices and valves. Under each section a description of requirements, sizes and other data is given. Another portion of the bulletin deals with "Maintenance of Fat Storage Tanks." Included in this section is information on how to keep the tanks clean, temperature data and general facts about fat storage. For copies of this bulletin check No. 7603 on the coupon and mail.

No. 7604—Shovel-Barrow

A combination shovel and wheelbarrow designed for handling grain and feed in cereal and grain processing plants and elevators has been announced by Gar-Bro Manufacturing Co. According to company literature, in effect, the unit is a giant-size dust pan. It can be loaded quickly without shoveling since the bottom of the tray is at floor level and can be pushed directly into the grain or

other bulk material. Balanced construction makes it easy to transport and maneuver with a full load, the company said. A patented raised fulcrum dumping device lifts and tilts the tray for steep, fast unloading. The unit is of all-welded steel construction and has ball bearing wheels and cushion rubber tires. Tray width is 24 in., length 30 in. and overall width 34 in. Net weight is 65 lb. For details, check No. 7604 on the coupon and mail.

No. 7606—Booklet on Coccidiosis

A brochure entitled "Technical Information and Review of Experimental Data—CocciVac," has been prepared by Dorn and Mitchell Laboratories, Inc. Designed for use by technical and scientific people in the poultry field, the 32-page brochure contains detailed research and field data regarding the control of coccidiosis using CocciVac coccidiosis vaccine. Distribution of this brochure will be limited to technical and scientific people. Qualified persons may obtain further information by checking No. 7606 on the coupon and mailing it.

No. 7605—Fall Pack Promotion

Chas. Pfizer & Co., Inc., announces a fall pack promotion featuring a colorful two-shelf display. Included in the promotion will be consumer premiums and a small assortment of animal health products designed to treat a number of livestock and poultry diseases. In addition to the in-store product promotion, the company will support sales with nationwide consumer advertising, including some 600 billboard promotions in 20

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- ☐ No. 7603—Feed Fat Bulletin
- ☐ No. 7604—Shovel-Barrow
- ☐ No. 7605—Fall Pack Promotion
- ☐ No. 7606—Booklet on Coccidiosis

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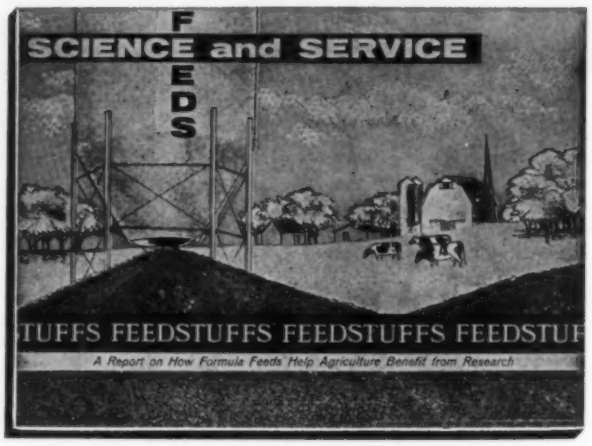
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Science and Service is a summary of special Golden Year articles in observance of American Feed Manufacturers Association 50th anniversary. Twelve outstanding feed authorities contributed to the reports which appeared in Feedstuffs during the past year and from which this booklet was compiled.

A limited number of reprints of Science and Service *are available now at a single copy price of 50¢. Larger numbers available at quantity prices, ranging downward from 35¢ each for 10 to 100, 25¢ each for 100, to 10¢ each for 1,000. Imprinting a three line company signature on back page of quantities over 100—$7 minimum. Inquire about additional quantity discounts.*

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states. The display can be set up to create an animal health department on the spot. A free six-way flashlight is enclosed in each carton of Terramycin for mastitis. A premium given with the Terramycin poultry formula is a free one-year subscription to a poultry publication. For more information about the rest of the campaign, check No. 7605 on the coupon and mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 7571—Cob and shuck retarder, C. O. Bartlett & Snow Co.

No. 7572—Pneumatic bulk unit, Aero-Bulk Manufacturing Co.

No. 7573—Linear programming, International Business Machines Corp.

No. 7574 — Temperature recording unit, Hot Spot Detector, Inc.

No. 7575 — Automatic bag feeder, Bemis Bro. Bag Co.

No. 7576—"Roughager" pellet mill, California Pellet Mill Co.

No. 7577—Bulk fumigant, Ferguson Fumigants, Inc.

No. 7578—Extractor magnet, Magni-Power Co.

No. 7579—Proportioning pump, B-I-F Industries, Inc.

No. 7580—Booklet on pellet mills, Sprout, Waldron & Co., Inc.

No. 7581 — Automatic unloader, Butler Manufacturing Co.

No. 7582 — Molasses feed scale, Richardson Scale Co.

No. 7583—Bin vibrator, Eriez Manufacturing Co.

No. 7584 — Dealer program brochure, William Davies Co., Inc.

No. 7586—Engineering service, V. D. Anderson Co.

No. 7587—Inert atmosphere generators, Gas Atmospheres, Inc.

No. 7588—Molasses product, Vylactos Laboratories, Inc.

No. 7589—Bulk feed body, Gerber Sheet Metal, Inc.

No. 7590—Bulk or feed body, Trailco Manufacturing & Sales Co.

No. 7591—Sales booklet, Perrygraf Corp.

No. 7592—Package Pneumatic system, Sprout, Waldron & Co., Inc.

No. 7593—Bag flattener, New London Engineering Co.

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No. 7595—Portable grain conveyor, Myers-Sherman Co.

No. 7596—Feed, fertilizer body, Simonsen Manufacturing Co.

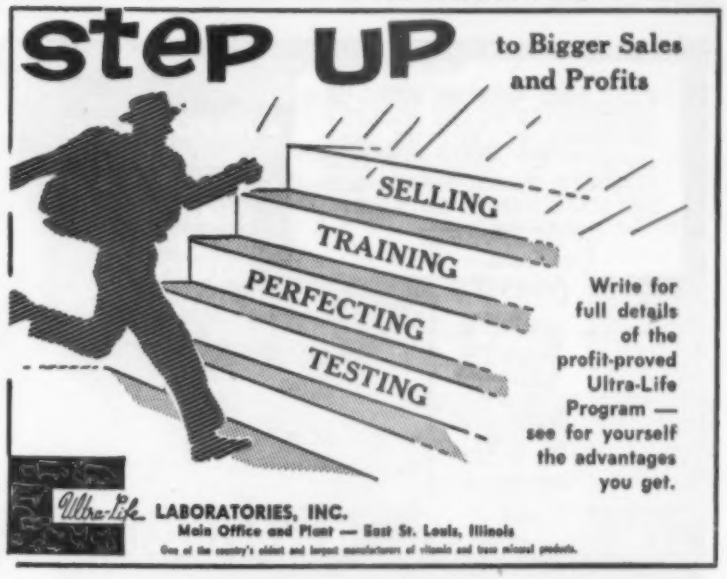
No. 7597 — Tractor shovel, The Frank G. Hough Co.

No. 7598—All-steel hog pen, Starline, Inc.

No. 7599—Vitamin K product, Heterochemical Corp.

No. 7600—Fish meal dryer bulletin, Standard Steel Corp.

No. 7601—Dust collector, Ripco Air Systems.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Alvin Berg manages the entire Co-Op, presently employing seven people.

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"As for custom mixing, we give our customers fast service and a quality product, thanks to our Strong-Scott 1-ton and 2-ton Triple Action Mixers," added Al.

With just a pull of the handle, any one of the five special type screens for the Hammermill are dropped into place and ready to go—it's just that easy and fast.

Walter Wendt, mill employee at Green Valley, adds just the right amount of molasses to feed in the Triple Action Mixer.

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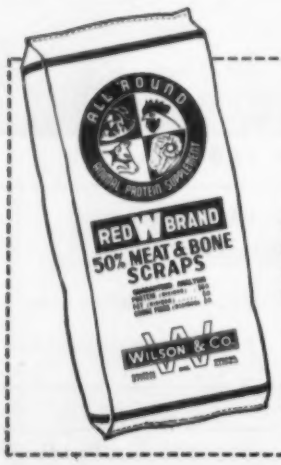

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RESEARCH

(Continued from page 33)

With the advent of stilbestrol in cattle feeds, there has been a tendency for any abnormal sexual reactions in any animal to be attributed to presence of stilbestrol in the feed. More likely, say Wayne researchers, the stimulation comes from naturally occurring estrogen in the grain or roughage.

White mice are very sensitive to estrogens, and Allied Mills has developed a biological mouse uterine assay which will routinely detect 3 parts of estrogen (equivalent to stilbestrol) in a billion parts of feed.

Abnormal sexual stimulation in seven different herds of swine was called to the attention of Wayne researchers during the past year. In each case moldy corn was being fed. Samples of the corn were assayed using the white mice, and increased uterine weights were noted in the immature female mice used in this work. It was shown that the moldy corn contained estrogenic activity which was stimulating the gilts abnormally. Other samples of moldy corn have been tested with the mouse assay and found to be free of estrogenic activity. Probably only a small proportion of moldy corn contains estrogen activity. The type of molds responsible for the estrogenic activity has not been identified.

BROILERS: An experiment was conducted to learn how much feed is wasted when feeders are filled too full. When feeders were filled correctly, weight was 3.36 lb. and feed conversion was 2.25. When feeders were too full, weight was 3.32 lb., and conversion was 2.48.

Showing that cold weather takes more feed, research was conducted in two types of housing with the same feed formulation. Data show how the amount of feed required was greater during cold months in the unheated house but about the same during all seasons in the heated house. Data from commercial broiler flocks in one area showed that .7 lb. more feed was required per bird marketed during the cold months.

Crumbles and pellets: Broilers receiving crumbles vs. mash or crumbles and pellets vs. mash weighed an average of 5.8% more. Amount of feed required per pound of broiler averaged 4.4% less.

Ingredient quality: A "toe ash test" is used at the Wayne farm to routine check availability of phosphorus in dicalcium phosphate from various sources. Newly hatched chicks are fed a ration without any extra phosphorus for one week. Then different groups are fed different phosphate supplements until 3 or 4 weeks old. One toe from each foot is removed, dried and burned until only the ash or minerals remain. The percent ash in the dried toe is a measure of the amount of phosphorus available for bone formation. Results of a typical test were presented. Phosphate A increased amount of toe bone formation 30.5% in a four week test. Phosphate B increased bone formation only 4.5%. Two other phosphates also were not as good as Phosphate A. Three week tests were repeated for phosphate A, C and D with different production from the same manufacturer. Differences were small but very consistent. Data from large experimental groups fed phosphates A and B showed slower growth and poorer bone formation for phosphate B, and some 10% more feed was required to produce the same weight broiler.

Data also were presented to show differences in unidentified growth factor sources (all with the same name). In addition, the researchers reported a biological test indicating that some vitamin A supplements are not as stable as others.

Diseases and stresses: In a study with chicks which developed a condition similar to paratyphoid, it was

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shown how a diet properly balanced with some of the vitamins helped prevent mortality. Both groups were given a high level of antibiotic in the water when the condition was noticed. It was soon evident that the properly formulated diet helped prevent mortality. By 18 days nearly 8% of the chicks fed the poor ration were lost. Less than 1% of the chicks on the specially balanced diet had died.

Other tests: In a study with arsenicals, 3-nitro increased weight 5.8% and cut feed required for weight by 2.9%. Arsanilic acid increased weight 5.2% and decreased feed requirement by 2.5%. If the control birds had been carried to the weight of the birds fed arsenicals, they would have required 4 to 4.5% more feed for market weight.

Wayne researchers also reported an experiment in which feeding of grit increased weight "only slightly", with little influence on feed requirement. Some of the birds were fed mash and some were fed crumbles in this test.

Moderately debeaked chicks averaged only .02 lb. lighter at market than those not debeaked. Those severely debeaked were .11 lb. lighter in one experiment. Feed conversions appeared not to be influenced. There were no differences in mortality. Differences under commercial conditions may be greater.

LAYERS AND PULLETS: It was noted that response from a "medication" type of fortification obviously will depend on degree of stress or disease. In a test with arsanilic acid, there was a production of 15 more eggs per hen and a decrease of 4% in feed required per dozen. Feed per dozen of 3.76 lb. over a 10-month period from a commercial ration was described as "outstandingly low."

In a test of mash-scratch vs. all-mash for layers, one pen received a scratch mixture of one third oats and two thirds corn and an egg

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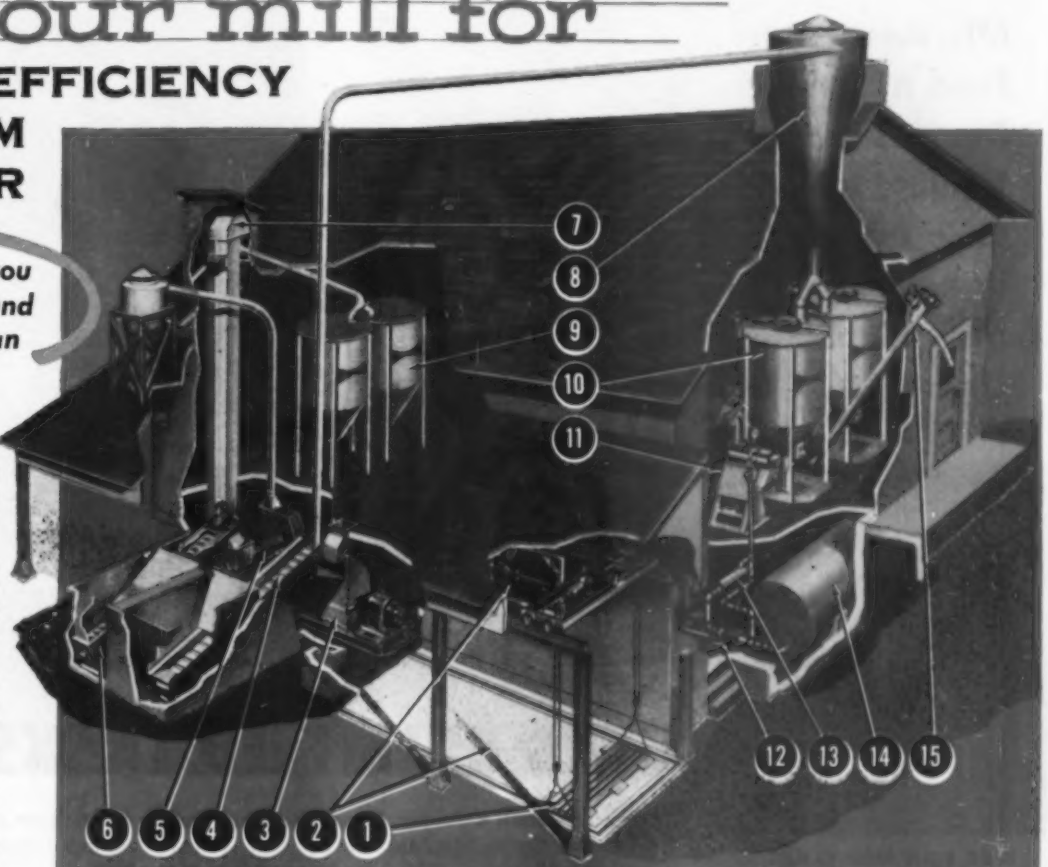

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Here is a list of the machines used in the above mill. They are keyed to the drawing by number.
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2. Kelly Duplex Truck Scale with Type Recording Beam
3. Kelly Duplex K-20 Hammermill with direct connected 100 HP motor—and automatic drag control
4. Kelly Duplex 20" Double Chain Drag
5. Kelly Duplex Corn Sheller
6. Kelly Duplex 12" Pit Auger with vari-speed control
7. Kelly Duplex All Steel Bucket Elevator
8. Two Kelly Duplex Dust Collectors
9. Two Kelly Duplex No. 4 Grain Bins
10. Two Kelly Duplex No. 3 Vertical Feed Mixers
11. Kelly Duplex Twin Molasses Mixer
12. Kelly Duplex Molasses Pump
13. Kelly Duplex Molasses Heater
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☐ Combined Sheller-Cleaner
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mash. Another pen received a mixture of ground corn, ground oats and egg mash in the same proportions. Production and feed efficiency for the mash-scratch and all-mash groups were 71.8% and 4.28, and 73.6% and 4.11, respectively. Other tests show that using less oats than fed here would have resulted in less feed required.

Inclusion of a high level of antibiotic in a "noon lunch" pellet was described as an efficient and practical method of boosting antibiotic intake to help combat laying house stresses. When high antibiotic diet (HAD) pellets were fed as a "noon lunch" at a rate of 5 lb. per 100 birds daily, there were increased production (6.4% more) and lowered feed requirement, (3.1% less) with no difference in mortality. Another experiment was conducted in which HAD crumbles were fed 2 days out of each 2 weeks. Again, production was increased, (3.2% more) feed requirement was lowered, (7.2% less) but there was no apparent difference in mortality.

There is only a limited place for oats in most all-mash laying feed programs, said the Wayne researchers. For high producing flocks, they said, use of oats will usually increase the cost of producing eggs. Oats were removed from the laying rations fed several groups of hens during the last phase of production. Production remained about the same when actually it was expected to decrease naturally. Following removal of 15% oats, amount of feed per dozen was decreased 8%.

Floor management and space for layers: "With greater specialization and mechanization, it has been shown that under controlled conditions as little as 1 to 1½ sq. ft. of floor space per layer is sufficient," said the Wayne researchers. "Some of these reports leave the impression that installation of slat floors or tiers of mechanical feeders, waterers and roosts is necessary for the use of less space. The basic factors which influence amount of space are feeder space, water space, nest space, litter condition and necessary 'elbow room.' It is not always necessary to use tiered feeders and waterers to provide enough space with 1 to 1½ sq. ft. housing. With the newer 8-in. nests, it is easier to provide sufficient nest space on one wall without arranging them too high. Maintenance of good litter condition with crowded housing depends on adequate ventilation and removal of a large proportion of the droppings. It is doubtful that 'elbow room' as such is very important to a hen unless she has less than 1 to 1½ sq. ft. With all of these factors in mind and considering the results of an experiment (reported in detail), the Wayne Research laying house has been constructed to provide half litter and half slats over a mechanically cleaned dropping pit. Such an arrangement gives sufficient space for feeding, watering and roosting over the dropping pit."

Pullet feeding programs: A summary on the effects of controlling energy intake of growing pullets was presented; this was based on Allied Mills and other experiments, plus commercial observations. Most results indicate that restricting energy intake by 20% of a full feed gives satisfactory results.

(1) Production—usually an increase but not always; 10 Wayne comparisons show a 5.7% increase. (2) Feed conversion in laying house—same pattern as production but improvement less because limited-fed pullets eat more first few weeks of production; 2.9% increased efficiency in 10 Allied Mills tests. (3) Livability—sometimes better during laying season; little significant difference in Wayne tests. (4) Egg size—early egg size larger from controlled-fed pullets; little difference later; smaller proportion of small eggs over total production. (5) Prolapse—some persons believe too-fat pullets experience more inverted vents, resulting in prolapse. (6) Hatchability—little difference; but larger percentage of early eggs are suitable for setting. (7) Feed saved—during growing period, 4-5 lb. per pullet if feed 20% less of medium to high energy ration; this advantage not realized if full feed a low energy, high fiber diet; pullets eat more of low energy ration, but lower cost offsets extra amount consumed. (8) Other factors to consider when controlling energy—(a) Advantages usually greater for heavy breeds. (b) Full-feeding low energy ration more foolproof method than limiting high energy ration but does not permit much feed saving. (c) Controlling energy by full feeding low energy ration more satisfactory in confinement. (d) Benefits of controlled feeding usually greater from fall and winter hatched pullets because of tendency for summer light to stimulate egg production too early. (e) Do not limit nutrition; limit only energy. (f) If disease or stress which tend to delay maturity, may be unwise to limit energy intake as much as normally advisable. (g) Start full feeding high energy ration when pullets reach 5% production. (h) Work has been done on personalized feeding programs for different strains of growing pullets.

TURKEYS: Data were reported on range vs. confinement rearing of both bronze and broad white turkeys. The hens were heavier in confinement than on range. With toms, the reverse was true. If confinement space is limited, it is more desirable to use it for hens. Feed requirements were similar for range and confinement bronze; but for some unexplained reason, they were much higher for confined whites than for those on range. There was not much difference in mortality between the two groups.

Where growers can raise hens separately from toms, they can take advantage of lower protein requirement for earlier finish. Data were reported from a test in which toms and hens were both fed the same to 14 weeks. Then half the toms were given 14% protein and half were given 18% protein. The hens were also fed 14 and 18% protein at 14 weeks. At 18 weeks, all groups of both sexes received 14% protein. Lowering protein to 14% at 14 weeks caused toms to gain 6% less during the next four weeks and increased feed requirement 9%. With hens, however, weight gains and feed efficiency were the same at both levels. Finish was better where hens

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4.3	215	12′10″
5.8	290	15′ 6″
7.3	365	18′ 2″
6 FT.—SIDE DRAW		
3.8	188	14′ 8″
5.3	264	17′ 4″
6.8	339	20′ 0″
8.3	415	22′ 8″
9 FT.—CENTER DRAW		
11.0	552	15′11″
14.4	718	18′ 7″
17.8	888	21′ 3″
21.1	1055	23′11″
24.5	1225	26′ 6″
9 FT.—SIDE DRAW		
14.4	722	22′11″
17.8	890	25′ 7″
21.1	1058	28′ 3″
24.5	1226	30′11″
28.0	1395	33′ 7″

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were changed to the 14% finisher at 14 weeks. Other data show that feeding for finish is more successful under practical conditions by lowering protein during the finishing period than by adding higher levels of fat.

In a comparison of feeding systems on range, weights of turkeys receiving complete mash mixtures were almost identical to those fed supplement free choice with grain. However, those getting mixed rations required 10.2% less feed. Turkeys receiving pellets weighed ¼ lb. more. They required 13.9% less feed than free choice fed birds and 4.2% less than mash fed turkeys.

DAIRY FEEDING: Extensive information was presented on results obtained with the 55 Holstein cows in the Wayne dairy herd. This included breeding as well as feeding. On the average, roughages and pasture supply 50% or more of the daily feed requirements. An experimental program feeding 10 to 12 lb. of hay, 1 lb. corn silage for each pound of milk and 3 lb. of fortified dairy supplement has given economical production and maintained body condition . . . Grass silages need a preservative . . . Urea may supply up to one third of the protein in the daily grain ration fed the cow . . . Research indicates the need for a minimum of 14% protein for grass silage and excellent hay. With corn silage, a 16% protein feed is most practical. As quality of roughage is reduced, amount of ration fed should be increased . . . During the past 12 months, one ration, 16% protein, was fed to all animals over 4 months of age. This single ration has given excellent production, saves on number of storage bins, reduces labor and produces well developed calves . . . Antibiotics may show definite benefits in some ruminant feeding programs. Results in dairying are not as noticeable in our feeding trials under our management conditions. If a low grade infection is present, if management leaves something to be desired, or if the herd is under unusual stresses, added cost of antibiotic can be justified.

Currently an all-pelleted ration (concentrate mixture) is fed to half the herd, while the rest of the cows get the same diet in meal form. Milk production is sustained without any reduction in butterfat content. All-pelleted rations are practical for milking parlor feeding where fast feed consumption is indicated.

Pelleting roughage for dairy calves: In a recent comparison, grass hay long and the same hay ground and pelleted were tested with calves. The average daily gain for both groups was nearly identical. There was little difference in amount of starter consumed or amount of hay consumed. In another experiment, with alfalfa, calves fed the long hay gained more than those fed the same hay pelleted. They consumed considerably more hay and slightly more starter. This probably accounts for the extra gain Apparently the alfalfa pellets were not as palatable to these calves as the long hay.

Another experiment was designed to learn if force feeding roughage pellets by mixing them with starter would have a place in calf feeding. Best performance was obtained from calves receiving calf starter and long alfalfa hay, free choice. Calves receiving the same alfalfa hay, pelleted and mixed with the starter at a 1 to 4 rate, gained slightly less and ate considerably less feed. In a group in which ground corn cobs were mixed with the fortified calf starter at a rate of 1 to 4, these calves ate slightly more than those receiving alfalfa pellets but gains were almost identical. Some other systems also were reported, and in general it was indicated that calves apparently need some long hay.

Milk replacer: Data were reported on results with a commercial milk replacer as compared with cow's milk for dairy calves. Gains of the two groups of calves were almost identical. A convenient method of figuring cost saving per calf by using milk replacer is to determine the price of 200 lb. of cow's milk and subtract the cost of a 25 lb. bag of highly fortified milk replacer. Two other advantages are convenience of feeding a dry milk replacer mixed with water as compared to timing of calf feeding with milking time, and inclusion of an antibiotic in the replacer, which means less tendency to scour.

Other calf studies: Calves receiving a commercial dried rumen product gained at about the same rate as those receiving nothing in addition to calf starter and milk replacer. Calves getting fresh rumen fluid daily in milk replacer gained slightly less.

Two groups of calves were used to compare cracked corn and whole corn in a starter made from equal parts of commercial calf supplement pellets, whole oats and corn. There appeared to be little difference in palatability of the two starters or in performance.

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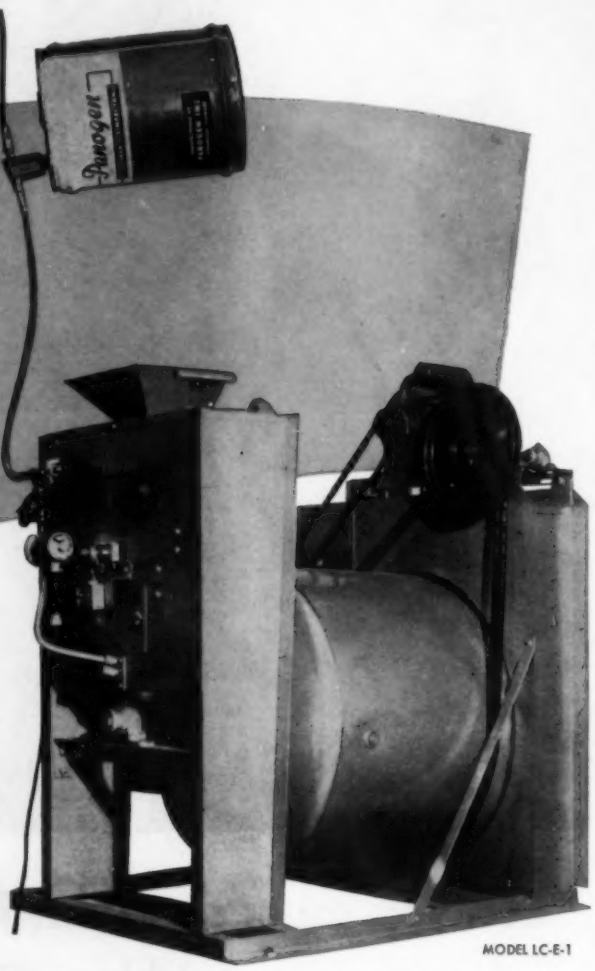

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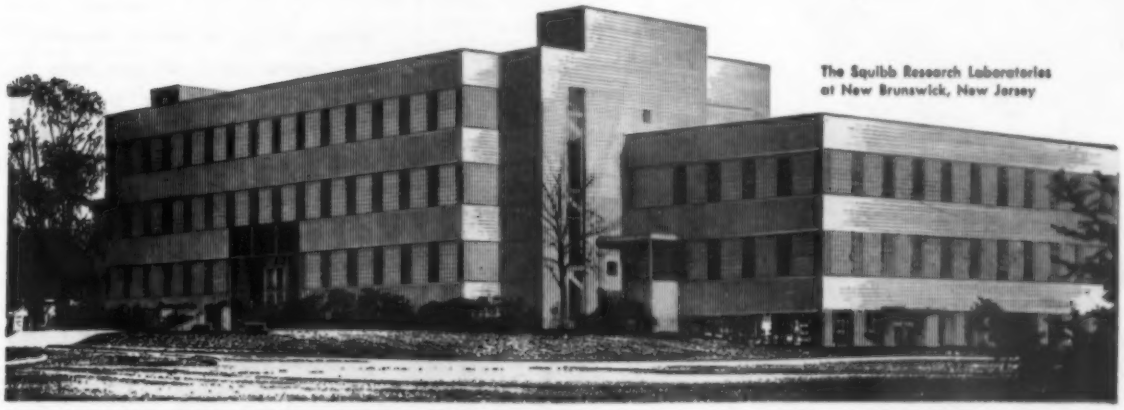

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Convention Calendar

Aug. 3-8—Feed Microscopy Short Course; Texas Agricultural Experiment Station, College Station; chm., E. E. Brown, Asst. State Chemist.

Aug. 4-5—Midsouth Soybean and Grain Shippers Assn.; Hotel Peabody, Memphis, Tenn.; sec., Paul C. Hughes, P.O. Box 692, Blytheville, Ark.

Aug. 4-7 — Poultry Science Assn. (meeting for members and executive committee invited guests only), Iowa State College, Ames; chm., Dr. Robert E. Phillips, poultry department, Iowa State College.

Aug. 7-8 — North Carolina Feed Manufacturers Assn.; Ocean Forest Hotel, Myrtle Beach, S.C.; sec.-treas., A. M. Upshaw, Jr., North Carolina Feed Manufacturers Assn., Box 44, Mocksville, N.C.

Aug. 10-12 — American Soybean Assn. and National Soybean Processors Assn., joint convention; Sheraton-Jefferson Hotel, St. Louis, Mo.; exec. vice president, George M. Strayer, American Soybean Assn., Hudson, Iowa; sec., National Soybean Processors Assn., R. G. Houghtlin, 3818 Board of Trade Bldg., Chicago 4, Ill.

Aug. 11-12 — Wisconsin Nutrition School; Memorial Union, University of Wisconsin, Madison; chm., Dr. Robert H. Grummer, Dept. of Animal Husbandry, University of Wisconsin.

Aug. 17-18 — Kentucky Feed Conference, sponsored by University of Kentucky and Kentucky Feed & Grain Assn.; Brown Suburban Hotel, Louisville; sec., Jack Weber, P. O. Box 425, Lexington, Ky.

Aug. 23-25—Poultry Industries of Louisiana, Inc.; Captain Shreve and Washington Youree Hotels, Shreveport; sec., Clyde Ingram, Louisiana State University, Baton Rouge, La.

Aug. 23-25 — The National Hay Assn.; Sir Francis Drake Hotel, San Francisco; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis, Ind.

Aug. 24-27—Georgia Poultry Institute; Rock Eagle 4-H Club Center; Eatonton, Ga.; chm., Arthur Gannon, Poultry Division, University of Georgia, College of Agriculture, Athens, Ga.

Aug. 28—Purdue Swine Day; Purdue University, Lafayette, Indiana; chm., Dr. J. H. Conrad, Animal Science Department.

Sept. 3-4—Symposium on Magnesium in Agriculture; West Virginia University, Morgantown, W. Va.; Dr. G. C. Anderson, head, Animal Husbandry Dept.

Sept. 4 — Illinois Cattle Feeders Day, University of Illinois, Urbana; chm., A. L. Neumann, Beef Cattle Division.

Sept. 4—Swine Day; University of Missouri, Columbia; chm., Prof. Le-

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New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

● ● ●

Nov. 5-6—Florida Nutrition Conference; University of Florida, Gainesville; sponsored by Florida Feed Dealers Assn. and Florida Agricultural Experiment Station; chm., Dr. J. P. Feaster, Department of Animal Husbandry and Nutrition.

Nov. 16-17 — Washington Animal Industry Conference; Yakima Junior College, Yakima, Wash.

1960

Feb. 10-11—Pacific Northwest Feed Mill Production School; Chinook Hotel, Yakima, Wash.; sponsored by Washington State Feed Assn., mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4, Wash.

Feb. 12 — Washington State Feed Assn.; Chinook Hotel, Yakima, Wash.; Mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4, Wash.

land Tribble, Animal Husbandry Department.

Sept. 9-10 — Pet Food Institute, Drake Hotel, Chicago; sec., Clyde Kassens, 332 S. Michigan Ave., Chicago, Ill.

Sept. 9-10 — Maryland Poultry Service Conference; University of Maryland, College Park; chm., Wade H. Rice, University of Maryland, College Park, Md.

Sept. 13-14—Grain and Feed Dealers National Assn. (work meeting for directors, committees and members), Minneapolis; exec. vice pres., Alvin E. Oliver, 400 Folger Bldg., Washington 5, D.C.

Sept. 15-16—Mutual Millers & Feed Dealers Assn.; Jamestown, N.Y.; sec., Margaret Bentley, 41 Chautauqua Ave., Jamestown, N.Y.

Sept. 15-17—Dixie Poultry Exposition; Asheville, N.C.; sec., N. B. Nicholson, Monroe, N.C.

Sept. 17-18 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville; chm., Dr. E. L. Stephenson, Department of Animal Industry.

Sept. 18 — College-Feed Industry Conference; Iowa State College, Ames; chm., Prof. Emmit Haynes, Animal Husbandry Dept.

Sept. 23 — Vermont Feed Dealers and Manufacturers Assn.; University of Vermont, Burlington, Vt.; sec., D. C. Henderson, Hills Agricultural Science Building, Burlington, Vt.

Sept. 23-25 — Feed Production School; Continental Hotel, Kansas City; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Sept. 24-26 — Pennsylvania Millers & Feed Dealers Assn.; Yorktowne Hotel, York, Pa.; sec., Donald W. Parke, P.O. Box 329, Ephrata, Pa.

Sept. 26—Small Mill Short Course; Continental Hotel, Kansas City; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Sept. 29-30 — Pacific Northwest Garden Supply Trade Show; Masonic Temple, Portland, Ore.; mgr., Russ Hays, 702 Lewis Bldg., Portland, Ore.

Oct. 1-2—National Feed Ingredients Assn.; Pick-Congress Hotel, Chicago, Ill.; sec. Peter W. Janss, 212 Equitable Bldg., Des Moines, Iowa.

Oct. 6-8 — Northeastern Poultry Producers Council Exposition and Convention; Farm Show Building, Harrisburg, Pa.; chm., Alfred Van Wagenen, 10 Rutgers Place, Trenton 8, N.J.

Oct. 7-9—Texas Nutrition Conference; Texas A&M College, College

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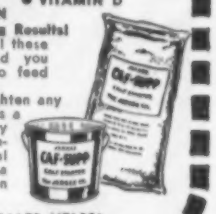

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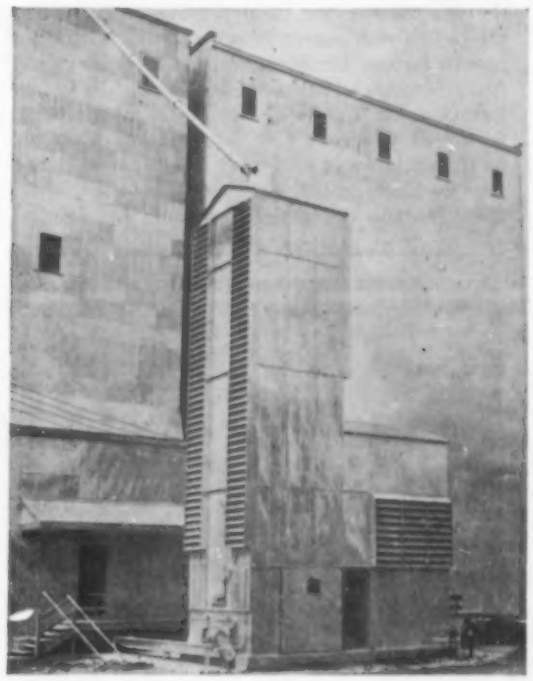

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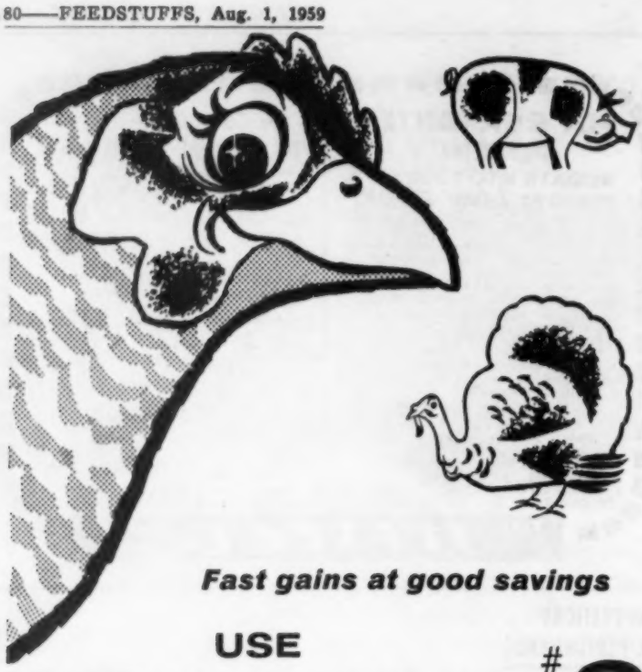

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CALENDAR FOR 1959-60

JULY

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Station; chm., Dr. J. R. Couch, Department of Poultry Science.

Oct. 11-14—Kentucky Poultry Federation and Kentucky Poultry Improvement Assn.; Cumberland Falls State Park, Corbin; sec., John W. Tuttle, 730 Rose St., Lexington, Ky.

Oct. 14 — Animal Nutrition Research Council; Shoreham Hotel, Washington, D.C.; sec., Irwin Olcott, Dawe's Laboratories, Inc., 4800 S. Richmond St., Chicago 32, Ill.

Oct. 14-15—Association of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; sec., Bruce Poundstone, Agricultural Experiment Station Bldg., University of Kentucky, Lexington, Ky.

Oct. 15-16—Michigan Feed & Grain Dealers Assn.; Kellogg Center, Michigan State University, East Lansing, Mich.; sec., Nevels Pearson, P.O. Box 472, East Lansing, Mich.

Oct. 15-16 — West Virginia Feed Dealers Assn. convention; Blackwater Falls Lodge, Davis; sec., J. S. Larrick, Beckley Ice & Feed, Beckley, W. Va.

Oct. 19-20—Beef Research Conference (attendance by invitation); Purdue University, Lafayette, Ind.; sponsored by Agricultural Research Institute and National Academy of Sciences-National Research Council; Dr. C. B. Cox, Agricultural Economics Department, Purdue University.

Oct. 19-20—California Animal Industry Conference; Fresno Memorial Auditorium, Fresno, Cal.; sponsored by California Hay, Grain & Feed Dealers Assn. and University of California; chm., Berton Maxwell, Poultry Producers of Central California, Petaluma.

Oct. 20-21—Virginia State Poultry Federation; Hotel John Marshall, Richmond, Va.; sec., J. Paul Williams, 615 E. Franklin St., Richmond 19, Va.

Oct. 22-23 — Annual Stockholders Meeting, Cooperative G.L.F. Exchange, Inc., Onondago County War Memorial Building, Syracuse, N.Y.

Oct. 22-23 — Iowa Seed Dealers Assn.; Savery Hotel, Des Moines; sec., Bob Skinner, 928 Des Moines Bldg., Des Moines 9, Iowa.

Oct. 29—Nebraska Feed & Nutrition Conference; University of Nebraska, Lincoln; chm., Dr. John Adams, Poultry Husbandry Department.

Oct. 30—Rooters Day; University of Nebraska, Lincoln; Dr. E. R. Peo, Animal Husbandry Department.

Oct. 30 — Illinois Sheep Producers Day; University of Illinois, Urbana; chm., Dr. U. S. Garrigus, Department of Animal Science.

Nov. 4-5—Illinois Feed Assn. and Illinois Poultry Improvement Assn., joint convention; Armory, Springfield, Ill.; IFA, Leland Hotel; sec., Dean M. Clark, Board of Trade Bldg., Chicago; IPIA, St. Nicholas Hotel; sec., Aubrey Harless, Box 91, Shelbyville, Ill.

Nov. 4-7 — National Renderers Assn., Hollywood Beach Hotel, Hollywood Beach, Fla.; sec., Miss Jamie Fox, 30 N. La Salle St., Chicago 2, Illinois.

Nov. 6-7—Oklahoma Formula Feed Conference; Oklahoma State University, Stillwater; chm., Dr. Rollin H. Thayer, Poultry Science Department. Jackson Blvd., Chicago 4, Ill.

Nov. 12-13—Cornell Nutrition Conference; Hotel Statler, Buffalo, N.Y.; chm., Dr. F. W. Hill, Poultry Husbandry Dept., Cornell University, Ithaca, N.Y.

Nov. 16—Tennessee Feed Manufacturers Assn., Claridge Hotel, Memphis, Tenn.; sec., Charles H. Warfield, American Trust Bldg., Nashville, Tenn.

Nov. 19-20—National Swine Industry Conference; Iowa State College, Ames; chm., Keith Myers, National Swine Growers Council, Grundy Center, Iowa.

Nov. 22-24—Western Grain & Feed Assn. of Iowa; Fort Des Moines Hotel,

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- They Show Better Gains
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Des Moines, Iowa; sec., Bob Skinner, 928 Des Moines Bldg., Des Moines 9, Iowa.

Nov. 27-28 — American Society of Animal Production; Sherman Hotel, Chicago, Ill.; sec., Dr. H. H. Stonaker, Colorado State University, Ft. Collins, Colo.

Nov. 30-Dec. 1 — Midwest Veterinary Nutrition Conference; President Hotel, Kansas City; sec., Lloyd Larson, Midwest Feed Manufacturers Assn., 20 W. 9th Street Bldg., Kansas City 5, Mo.

Dec. 8-9 — Poultrymen's Service Clinic; Cornell University, Ithaca, N.Y.

1960

Jan. 4-5 — Kansas Formula Feed Conference; Kansas State University, Manhattan, Kansas.

Jan. 5-7—National Turkey Federation; Hotel Leamington, Minneapolis; sec., M. C. Small, P. O. Box 69, Mt. Morris, Ill.

Jan. 17-19—Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indianapolis, Ind.; sec., Fred K. Sale, 600 Board of Trade Building, Indianapolis 4, Ind.

Jan. 25-27 — Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Feb. 4-5—Oregon Animal Industry Conference; Oregon State College, Corvallis, Ore.; chm., Dr. J. E. Parker, Poultry Husbandry Department.

Feb. 8-9—Montana Nutrition Conference; Montana State College, Bozeman; chm., Dr. O. O. Thomas, Animal Industry Dept.

Feb. 8-9—Midwest Feed Manufacturers Assn.; Muehlebach Hotel, Kansas City; exec. vice pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Feb. 11 — Boston Grain and Flour Exchange Annual Banquet; Sheraton-Plaza Hotel, Boston; chm., Paul Sutliff, 177 Milk St., Boston, Mass.

Feb. 12-14—Fact Finding Conference, sponsored by the Institute of American Poultry Industries; Municipal Auditorium, Kansas City, Mo.; pres., Harold M. Williams, 59 East Madison, Chicago, Ill.

Feb. 21-23 — Ohio Grain & Feed Dealers Assn.; Commodore Perry Hotel, Toledo; sec., G. E. O'Brien, 694 N. Ohio Street, Greenville, Ohio.

Feb. 22-23—Virginia Feed & Nutrition Conference; Hotel Roanoke, Roanoke; J. Paul Williams, sec., Virginia State Feed Assn., 615 E. Franklin St., Richmond, Va., or Prof. Paul M. Reaves, Department of Dairy Science, Virginia Polytechnic Institute, Blacksburg, Va.

March 7-8—Grain & Feed Dealers National Assn.; Hotel Muehlebach, Kansas City; sec., Herbert L. Sharp, 400 Folger Bldg., Washington 5, D.C.

March 17-18—Oregon Feed & Seed Dealers Assn.; New Sheraton Hotel, Portland, Ore.; mgr., Russ Hays, 702 Lewis Bldg., Portland, Ore.

March 23—Distillers Feed Conference; Sheraton Gibson Hotel, Cincinnati; sponsored by Distillers Feed Research Council; exec. director, Dr. Lawrence E. Carpenter, 1232 Enquirer Bldg., Cincinnati, Ohio.

April 11-13—Poultry and Egg National Board, LaSalle Hotel, Chicago, Ill.; mgr., Floyd Gell, 8 S. Michigan Ave., Chicago 13, Ill.

April 21-23—California Hay, Grain & Feed Dealers Assn., Ambassador Hotel, Los Angeles; sec., John Gilmore, Blue Anchor Bldg., 1400 10th St., Sacramento 14, Cal.

April 21-23—Kansas Grain & Feed Dealers Association; Broadview Hotel, Wichita, Kansas; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

May 9-11—American Feed Manufacturers Assn.; Conrad Hilton Hotel, Chicago; sec., W. T. Diamond, 53 W.

FARM INCORPORATED

SAN FRANCISCO — Hobe Halloran, well known feed researcher, has incorporated his Halloran Research Farm, near Modesto. The farm has a capitalization of about $250,000.

To Overseas Post

KIRKLAND, WASH.—John Schafer, production manager for Heisdorf & Nelson Farms, Inc., since 1956, has been transferred to Cuxhaven, West Germany, where for the next two years he will be in charge of overseas operations for H&N. Mr. Schafer will work with Lohmann & Co., Cuxhaven, distributors for H&N "Nick Chick" Leghorns throughout Europe, the Near East and North Africa.

Ernie Whitcomb, H&N nutritionist, will be acting production manager during Mr. Schafer's residence in West Germany.

NEW FEED BUILDING

LEWISTON, MAINE—The Langelier Feed & Hardware Co. will soon move into a new 36 ft. by 60 ft. store, according to Bertrand Langelier, an executive of the firm. The company, formerly in the feed business only, has now entered the hardware and farm supply merchandising field.

Cargill Elevator Nears Completion

MONTREAL—The huge grain storage space at Baie Comeau on the lower St. Lawrence River being constructed by the Cargill Grain Co., is nearing completion. Capacity will approach the 15,000,000 bu. mark. Reports indicate that the company expects to receive grain late in September and begin overseas shipments approximately a month later.

SALES REPRESENTATIVE

GAINESVILLE, GA.—J. T. Cato has been made sales and service representative with Allison & Holland Poultry Service, Gainesville, according to Jack Allison and Leonard Holland, owners. Mr. Cato has had 15 years experience in poultry service, having worked with Farmers Mutual Exchange, Queen City Poultry & Feed, Piedmont Poultry and Martin Feed & Poultry, all of Gainesville.

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the purified ANTIBIOTIC complex—that does your feed antibiotic job better!
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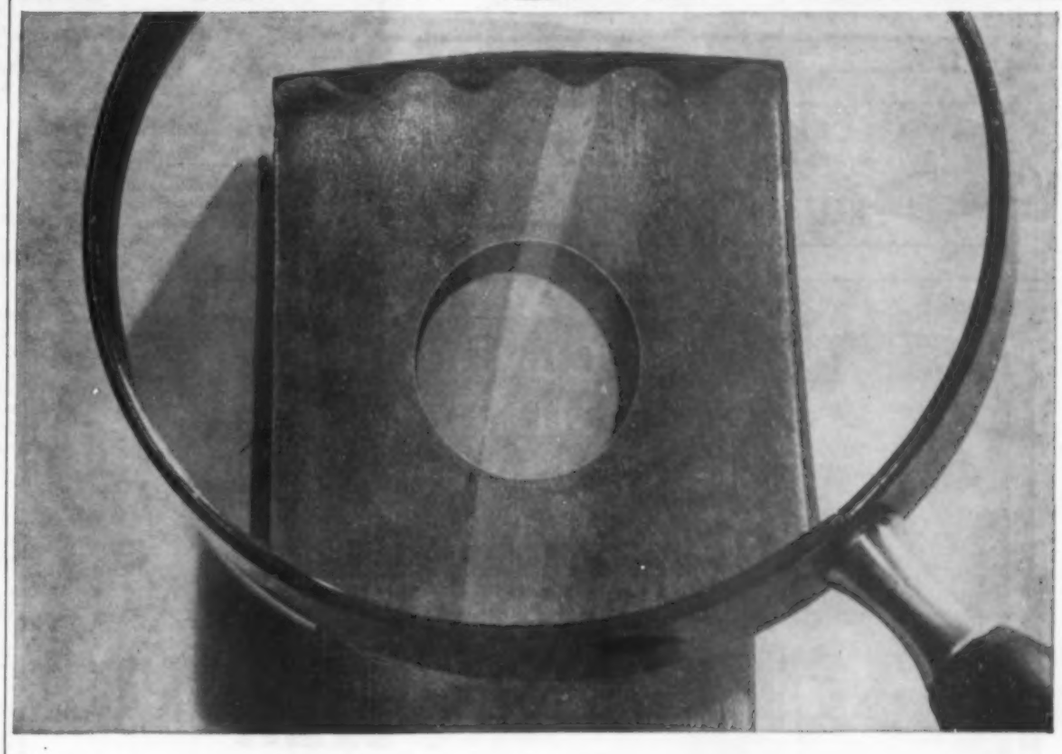

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New Commercial Uses Or Increased Demand Needed for Sorghum

MANHATTAN, KANSAS—"Industrial uses for grain sorghums are well established, but industrial utilization of grain sorghums will remain in its infancy either until new commercial applications are found for grain sorghum products, or until there is increased demand for products obtained from grain sorghums."

This is the opinion of W. M. Ross, USDA research agronomist with the crops research division of the Agricultural Research Service.

Mr. Ross, who has been working with sorghums at the Fort Hays branch agricultural experiment station of Kansas State University for several years, estimates utilization of grain sorghum by industry at 8 to 9 million bu. a year. This is less than 1½% of the crops harvested the past two years, says Mr. Ross. Most industrial usage is for starch and its related products, and for flour pastes.

If circumstances should make grain sorghum economical for industrial use, utilization of the grain crop could soar, according to Mr. Ross. He points out that prior to 1943 only a half million bushels of grain sorghum were used annually by industry. Then, because of shortages of other feed grains, 10 million bushels were processed in 1944, and this jumped to 48 million bushels in 1945! Most of this went into alcohol, although some was used for food, Mr. Ross adds.

A further possibility for increasing industrial utilization of grain sorghums is to develop varieties which produce larger amounts of marketable products, explains Mr. Ross.

He says one of the most important products obtained from wet milling is sorghum oil. About 2.2 lb. of oil similar to corn oil is recovered from a cwt. of grain and the oil is exported. If the yield of oil could be increased this would please not only the miller, but also the feeder, since oil has greater relative value than carbohydrates in fattening livestock. But wet and dry millers prefer a white seeded variety free from a subcoat.

"Though grain sorghum is a good poultry feed it lacks the caretenoid pigments such as corn has which impart a yellow color in the skin of poultry, and the yellow yolk in the egg."

Mr. Ross says researchers now have developed lines having from a fourth to a third of the total carotenoids of yellow corn, and yellow hybrids also are now a reality on an experimental basis.

One difficulty in the industrial utilization of grain sorghums is that final products often are directly in competition with corn, which is similar chemically, he explains. Both are high carbohydrate feed grains. Corn has a slightly higher fat or oil content, but sorghums have slightly more protein.

Arkansas Conducts Antibiotic Tests

FAYETTEVILLE, ARK.—Increases in weight gains of approximately 10% were obtained when Aureomycin was fed to 10 bulls in beef fattening tests conducted by the University of Arkansas. However, it was reported that feeding of the antibiotic did not improve feed efficiency nor did it result in any apparent differences in general health, feed consumption or conformation.

Dr. Maurice L. Ray and Dr. C. J. Brown, associate animal husbandmen, reported one of the two groups of bulls received a ration consisting of two parts grain and one part prairie hay. The other group was fed the same rations with 80 mg. Aureomycin fed daily in the form of Auropep crumbles.

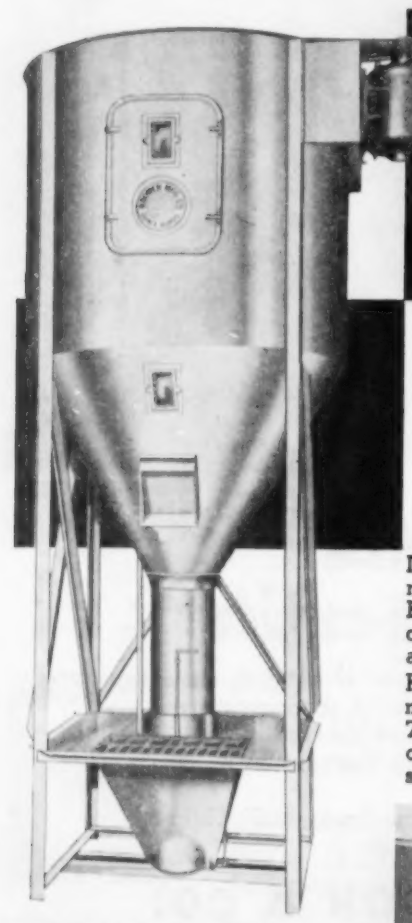
The feeding period lasted 126 days. All animals were individually fed, daily feed intake was recorded and bimonthly weights were taken of each bull.

Data showed that bulls fed Aureomycin gained 0.2 lb. per day more than those not fed the antibiotic.

The researchers said feed efficiency was best for the group fed no Aureomycin. The control group consumed 7.41 lb. feed per pound of gain, while those fed Aureomycin required 7.8 lb. feed to make a pound of gain.

Salesman Transferred

ST. LOUIS—John O. Yeast, Good Hope, Ill., has been appointed sales representative in west central Illinois by the Hardy Salt Co., which has its general offices in St. Louis and its manufacturing facilities at Manistee, Mich. Mr. Yeast succeeds H. J. (Bud) Koenigsaecker, North Pekin, Ill., who has been transferred from the Illinois area to Davenport, Iowa.



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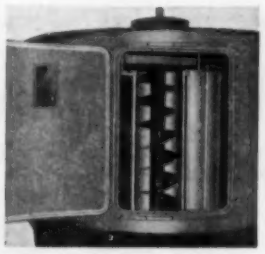
Dependability, fast mixing action, and low cost operation make Brower the WORLD'S LARGEST SELLING MIXER! Brower action WHIRLS the ingredients instead of just stirring or tumbling them . . . produces the most thorough mix obtainable. Every sack has the same even mixture.

FAST and ECONOMICAL — a perfect blend in about 10 minutes at a power cost of only 3¢ to 5¢ a ton. Five sizes — 700, 1200, 2000, 3000 and 4000 pounds-per-batch mixing capacities. Above-floor and below-floor models. Heavy welded steel construction — built for years of trouble-free service.



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Note mixing paddle at top which WHIRLS the ingredients for the most thorough mix.

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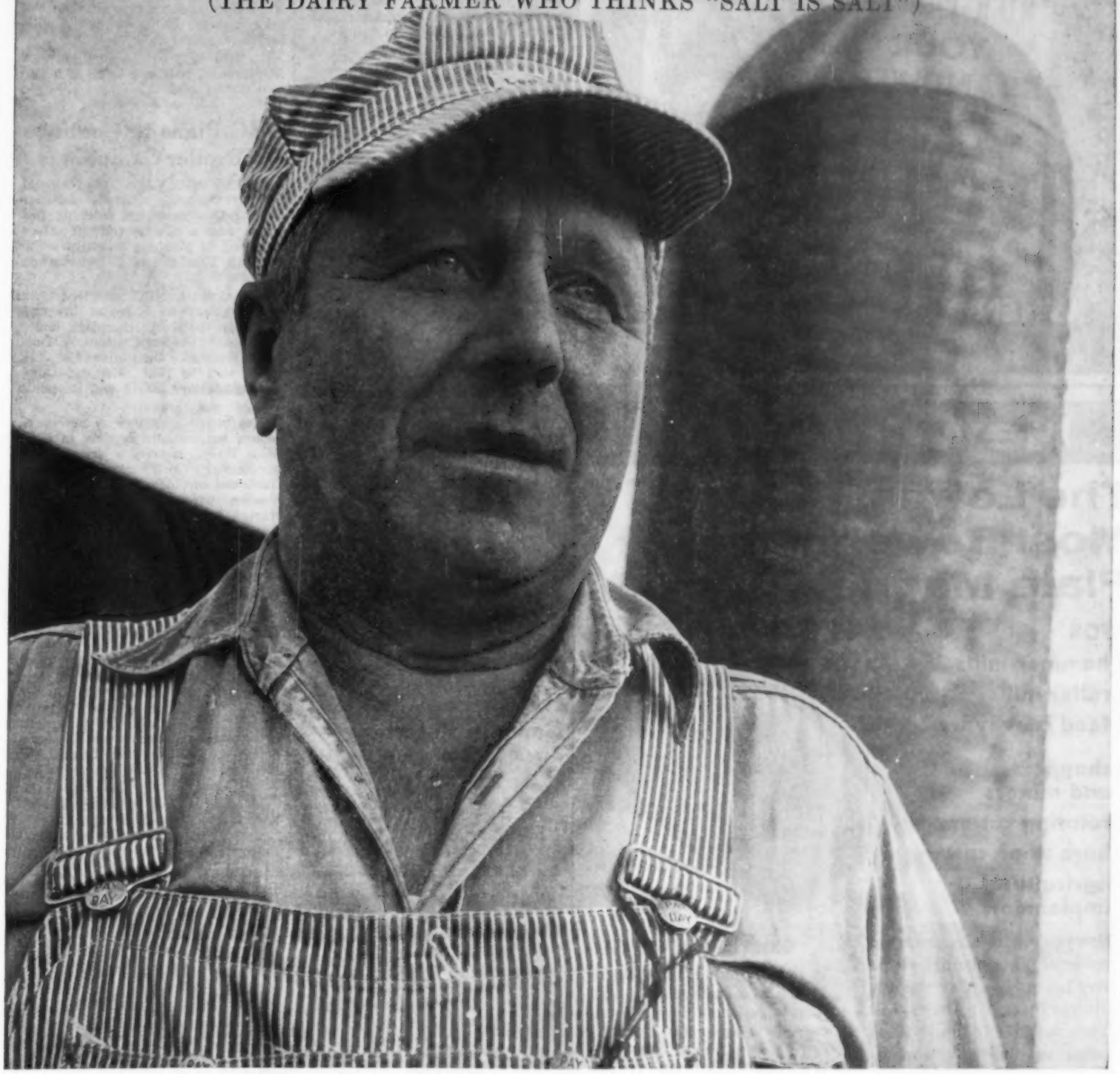
GIVE HIM A TIP HE'LL THANK YOU FOR

(THE DAIRY FARMER WHO THINKS "SALT IS SALT")



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Extension Importance Subject of Address

WINNIPEG — Addressing the recent annual meeting of the Canadian Society of Animal Production here, Dr. Charles E. Bell, chief, U.S. Department of Agriculture, said the livestock extension worker of the future will need to have a practical understanding of production economies if he is to assist producers in making wise use of technological advances in the livestock industry.

"His educational program will tie to other production techniques, management principles and economics as never before. The new situation will call for the problem approach with even closer teamwork between staff members than in the past."

In developing these programs, he said, consideration must be given to the many problems in nutrition, breeding, housing, automation equipment, manure disposal, disease control, capital investment and operating costs, among other things. "Each aspect must be considered in the light of its effect on the whole operation. Deficiencies in any phase of the plans could easily spell disaster for the operator."

Extension specialists have an increasingly important role in acquainting producers with what is happening in the rest of their industry and the nation's economy, and how it affects their operations, he said, and producers must be accurately informed if they are to be motivated to cooperate with others towards solution of common problems.

"The successful extension specialist in the future will require vision, ingenuity and a broad perspective and be able to foresee problems and opportunities before they occur," Dr. Bell said. "He will exercise the type of leadership that works through other people — training, motivating and counselling with local leaders to assume their places of responsibility," Dr. Bell concluded.

Hybrid Corn Planting Gains in Percentage

WASHINGTON, D.C.—Corn acreage planted with hybrid seed increased sharply this year right along with growth in all corn acreage—and the percentage of total corn acres planted with hybrids is larger than ever. The U.S. Department of Agriculture reports that about the only opportunity for further expansion in the percentage of hybrid seed is in the relatively minor producing areas of the southeastern states, the Rocky Mountain states and the western Dakotas where the hybrid fraction ranges below four fifths.

Hybrid corn seed was planted on 81 million acres this year compared with 70 million last year and 68 million the year before. The percentage of total corn acres planted with hybrids grew to 94.8% compared with 94% last year.

Back in 1933 hybrid corn acreage amounted to only one tenth of a per cent of the total.

NBC Plans to Continue Its Broiler Campaigns

RICHMOND, VA. — The National Broiler Council, with its summer Chick-n-Que campaign reaching full steam and a new restaurant effort launched, is planning to continue its "Selling Like 60 in 59" theme on into the fall.

Don Corbett, NBC president, said the organization's board of directors has approved a fall campaign under the theme "Golden Chicken El Dorado." Joining in the nationwide sales effort will be NBC, Kellogg, Cling Peach Advisory Board and Reynolds Wrap.

The recipe describes a new procedure for roasting broilers in Reynolds Wrap, involves a dressing using Kellogg's Corn Flake Crumbs and continues an identification of cling peaches with chicken, which was started back in the western ranch dinner days, according to Frank Frazier, executive vice president of the Council.

"Roasting adds a third cooking method to major 1959 NBC campaigns," Mr. Frazier added, "giving further emphasis to the versatility of chicken meat."

Scheduled to reach full selling power in October and to carry on into November, the "Golden Chicken El Dorado" campaign will be featured on several nationwide TV programs, in national magazines and in newspapers and supplements. In addition, Kellogg will feature the recipe on some 25 million corn flakes packages.

Mr. Corbett said the campaign will have full merchandising support, with four-color banners, recipe pads, shelf talkers and sales brochures.

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Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Studies on Bovine Gastrointestinal Parasites. XXII. Rate of Consumption of Phenothiazine in Salt-Phenothiazine Mixtures by Cattle.

● R. L. Mayhew, Louisiana State University, American Journal of Veterinary Research, Vol. XX, No. 76, May, 1959, pp. 498-504.

ABSTRACT AND COMMENT

For the past few years the author and associates have conducted investigations at Louisiana State University on the general subject of cattle parasitism. This is a somewhat tardy report of an experiment conducted for a period of five years (1947-1952) to determine the actual consumption by mixed dairy type cattle of a phenothiazine-salt mixture of 10 parts salt and 1 part phenothiazine or of a commercial mixture containing 87% salt, 10% phenothiazine and 3% molasses.

The cattle were kept under the same conditions of management and the consumption of the experimental mixtures was checked against salt as a standard. During 21 months of the approximately five years of experimental time, the animals were individually isolated. Five grams of the salt-phenothiazine mixture was arbitrarily selected as the minimum level to supply an adequate amount of phenothiazine for control of larval development. It was shown that often the consumption of the mixtures was much below this level with wide variations both in salt and salt-phenothiazine mixtures by different individuals in the same period and by the same individual in different periods. The commercial mixture containing molasses was not consumed any better than the regular phenothiazine-salt mixture tested. There was also no consistent difference in the rate of consumption during different periods of the years of the mixtures.

The data would indicate that this method of controlling parasities is not satisfactory for cattle, although it appears to be effective for sheep. Recent research by others has demonstrated (Turk, 1959; Cauthen, 1957, 1958; Kinkead et al., 1957; Todd et al., 1958; Reidel et al., 1955; Baker et al., 1958; Alicata et al., 1956; Harvey et al., 1957; Vegors et al., 1958, etc.) that the proper procedure is to treat cattle infected with parasites with a treatment dosage based on body weight to effect removal of the parasites as completely as possible. If the animals are then to be pastured or ranged on infected ground a prevention program may be advisable.

The more recent data seems to indicate that one half gram daily intakes of phenothiazine are probably not adequate for cattle to prevent development of larvae and control of parasites. The proper intakes range from 1 to 2 gm. per day of the drug depending upon the weight of the cattle and the degree of contamination and infection. Such intakes cannot obviously be secured by using phenothiazine-salt or phenothiazine-mineral mixtures, except under the most favorable conditions. A far better policy is to incorporate the daily dose of the drug in the grain ration of the animals. Even then, unpalatability may become a factor, although certain improved forms of phenothiazine carriers appear to offer some promise in this regard (Todd, 1957).

It should also be pointed out that many of the college trials conducted under feedlot and range conditions indicate that such treatment of cattle may not be economically profitable to the rancher when all factors are taken into consideration, including the difference in gain, cost of labor for handling cattle, and selling price of cattle. It is obvious that any program of this nature should be only undertaken after a competent veterinarian has thoroughly assessed the situation by microscopic fecal exam-

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inations to determine the types and numbers of parasites present. Often, phenothiazine is valueless as a treatment for the particular parasite problem which may exist in the herd.

◆

Treatment of Experimental Bovine Coccidiosis with Multiple Small Doses and Single Large Doses of Sulfamethazine and Sulfabromomethazine

● D. M. Hammond, G. W. Clark, M. L. Miner, W. A. Trost and A. E. Johnson, Utah Agricultural Experiment Station.

ABSTRACT

Five experiments were conducted to determine the efficacy of (1) single treatments of sulfamethazine or sulfabromomethazine at the rate of 1.5 grams per pound of body weight approximately 13 days after artificial inoculation of experimental calves and (2) administration of either of these drugs on alternate days at the rate of 0.15 grain per pound of body weight per treatment from 10 to 18 or 24 days after artificial inoculation compared with (3) untreated controls.

The results showed that either method of administering the drugs was effective in controlling the experimentally induced infection. The use of the low-level treatment on alternate days did not appreciably interfere with the development of immunity.

COMMENT

Coccidiosis of calves occurs with a fair degree of frequency in overcrowded pens and in warmer climates. This third most important parasitic disease of cattle most often occurs in calves at about three to five months of age, especially during close confinement during winter months. Calves with coccidiosis have rough hair coats, drooping ears and sunken eyes and appear weak and depressed. Bloody diarrhea and weight loss are other symptoms which may lead to heavy mortality in certain instances unless prompt treatment is undertaken.

Previous research and recommendations have shown that many of the sulfa drugs are effective in combating the most common coccidia of cattle —Eimeria bovis when therapy is done during the 13th-17th days after inoculation or infection of the cattle with the parasite. This limited time of parasite susceptibility to sulfonamides makes clinical treatment difficult because of the trouble in identifying the time of infection.

Clinical symptoms are not observed until after the best time for treatment has passed for the first infected calves in a herd. Nevertheless, veterinarians have found that when coccidiosis strikes a herd of calves it is best to start immediate sulfa therapy and generally clean up the pens and surrounding areas, paying particular attention to manure removal and adequate bedding. In the South, good results are secured by using the Auburn system of raising calves in individual pens and moving the calves to clean ground regularly.

Low-level administration of sulfa drugs as proposed in this paper from Utah may provide a means of controlling coccidiosis in calves where difficulty from this condition has been experienced previously. Further investigations are necessary to determine whether these results are equally applicable to Eimeria zurnii.

By the way, for those of you who have difficulty in converting grains to grams—15.432 grains equal 1 gm.

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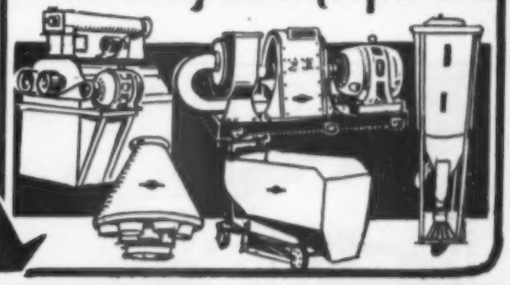

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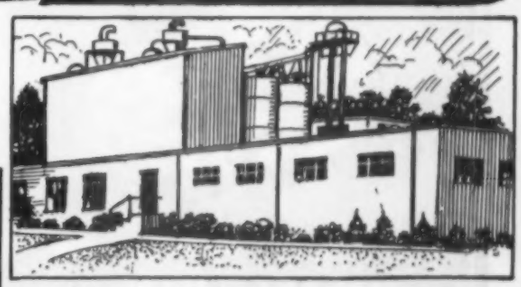

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Future Poultry Trends To Be Discussed at Virginia Convention

RICHMOND, VA. — The "crystal gazer" will be very much in evidence when the 29th annual convention of the Virginia State Poultry Federation gets underway at the John Marshall Hotel in Richmond Oct. 20-21.

The state's poultry producers and business people will hear nationally-recognized agricultural and business authorities forecast future trends in the poultry industry in the light of revolutionary developments taking place in food merchandising, according to Elmer Clay of Blackstone, Va., chairman of the program committee.

"Armed with this information," he said, "Virginia broiler, turkey and egg producers and allied businessmen will be in a much better position to plan their individual production programs for the year ahead."

As a further aid to the state's poultrymen in planning for 1960, commercial exhibits of the latest offerings in labor-saving equipment and other efficient production tools demanded by today's high-volume poultry industry will be permitted at the convention for the first time, according to James W. Moyers, Broadway, Va., federation president.

Mr. Moyers predicted convention attendance would be the largest in federation history as the state's poultrymen seek new ways to cope with the economic pressures being experienced by the poultry industry nationally. L. L. (Bud) Tourgee, Broadway, has been appointed attendance chairman, and plans are in motion to bring a large number of producers to Richmond from all over the state for the "crystal gazing" sessions.

Announcements on the availability and price of exhibit space and facilities available to exhibitors have been mailed from the federation office.

Additional information on the convention program or availability of exhibit space may be obtained from Paul Williams, executive secretary, Virginia State Poultry Federation, 615 E. Franklin St., Richmond, Va.

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Canada May Allow Importing U.S. Turkeys

MOUNT MORRIS, ILL.—Information has been received from authoritative sources the Canadian government will approve applications by Canadian importers for the importation of limited amounts of turkey during the present quarter ending Sept. 30, according to a National Turkey Fed. release.

Except for very limited quantities, importation of U.S. turkeys into Canada has been embargoed for some time.

Recently, some Canadian turkeys have been moving into the U.S., resulting from the short supply and favorable prices of heavy toms. While this appears to be only a temporary situation, it demonstrates there are times when it might be advantageous for Canadians to sell turkeys in the U.S., says the release.

Because of this situation, the National Turkey Fed. has suggested to the Canadian Turkey Fed. the situation be reviewed with the possibility of equalization of import-export regulations.

A few years ago, the National Turkey Fed. was responsible in arranging for the import duties being equalized between the two countries, says the release. This condition prevailed until about two years ago when, at the request of the Canadian Turkey Fed., the Canadian government placed an embargo on importation of turkeys from the U.S.

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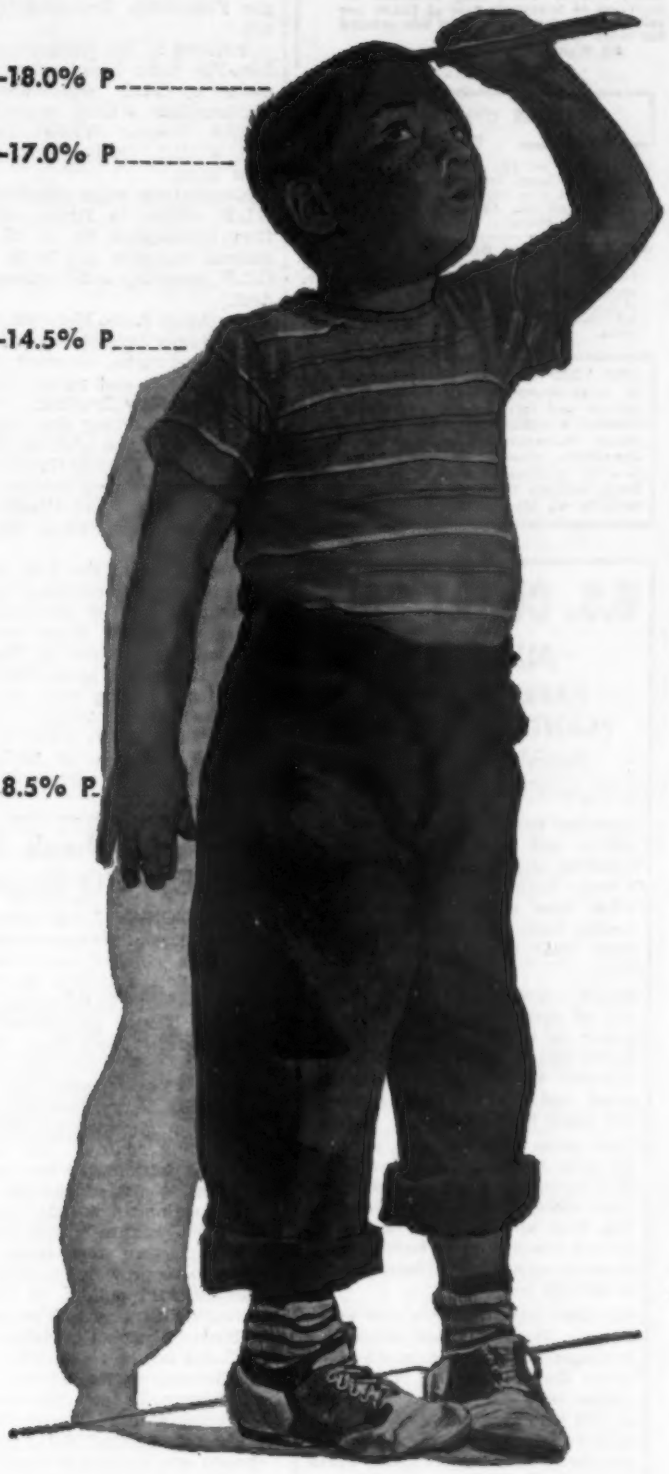

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Annual capacity estimated at 50,000 tons of pelleted fertilizer. Makes all grades up to 13-39-0. Can produce 25,000 tons of superphosphate yearly. Inventory consists of raw materials, mixed and semi-processes fertilizers and empty fertilizer bags.

Plant serves all Oklahoma, parts of Arkansas, Missouri, Kansas and Texas. Well located southwest of Oklahoma City, Oklahoma, on State Highway 152. New irrigated areas assure increased consumption of fertilizers. Researchers estimate state farmers needs at 800,000 tons yearly.

The Court authorized this sale under Chapter XI of the Act relating to Bankruptcies. Sealed bids must be filed in the Clerk's office by 11:00 A.M., August 10, 1959, and will be opened at 2:00 P.M. of the same day. All bids subject to approval of Court. For complete details contact Clerk, United States District Court for the Western District of Oklahoma, Federal Building, Oklahoma City, Oklahoma, or Nichols Seed & Fertilizer Co., Debtor in Possession under Chapter XI, P.O. Box 1296,—CE 9-1341—Oklahoma City, Oklahoma.

MISCELLANEOUS

WE LEASE GILTS. WOULD CONSIDER leasing through feed company. If interested contact: McLean County Hog Service, Arrowsmith, Illinois. Phone 36-F-13.

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G.L.F. Sells Northeast Broadcasting Network

ITHACA, N. Y.—The Ivy Broadcasting Co., Ithaca, has announced purchase of Northeast Radio Network (formerly Rural Radio Network) from Cooperative Grange League Federation Exchange, Inc., Ithaca.

Included in the transaction are all five FM radio broadcasting stations owned by G.L.F., which are WRRL, Wethersfield; WRRE, Bristol Center; WRRA, Ithaca; WRRD, DeRuyter, and WRRC, Cherry Valley, all in New York.

Negotiations were completed at the G.L.F. offices in Ithaca, with that firm represented by E. H. Fallon, general manager, and R. B. Gervan, G.L.F. secretary and Northeast president.

Northeast Radio Network is among the nation's largest regional broadcasting networks, covering the state of New York and parts of Pennsylvania and New England.

Presently serving this multi-state area in association with the New York Times-owned WQXR, New York City, Northeast's features include the Weather Roundup, Road Conditions Report, New York Times news, and many others.

In addition to the five radio stations it owns and operates, the G.L.F. firm has a total of 18 standard AM affiliates, all of them well-known broadcasting outlets in New York State. It also has seven full-time FM affiliates covering most of upstate New York from Albany to Buffalo. Founded by G.L.F. under the Rural Radio Foundation in 1947, it was transferred to its current G.L.F. subsidiary in 1953.

Broiler Cutback Noted In NEPPCO Report

TRENTON, N. J.—A "down swing" in settings and placements has given rise to a note of optimism in the broiler picture in the Northeast, it was reported in the July issue of Neppco News, publication of the Northeastern Poultry Producers Council.

Contractors are still very selective, and are stiffening housing and management requirements; good growers are finding contract, but many are looking, according to the report.

"There is also a desirable lowering in the estimates of idle house capacity. One has to watch this figure closely since in some areas considerable broiler growing capacity is being used to start pullets, or even being converted to layers. The movement of birds to market is right on schedule," the report continued.

"Distress chicks are not so much in evidence. In fact, very few reports are coming in of these. The stated prices at around 9-11¢ for white crosses are holding generally.

"Supplies of hatching eggs are tightening up. The supply is still adequate in the view of most reporters, but fewer surpluses are being reported, and some small shortages are turning up. The outlook for the next six weeks is for an adequate supply, but with occasional spot shortages. Many feel the supply is still ample, perhaps more than ample, for the needed fall cutback. Prices are holding around 55¢ doz.

"Reporters look for rising prices through August, some more optimistically than others."

GRAIN BIN DAMAGED

CONNELL, WASH.—Four new cylindrical grain bins of reinforced concrete are to be built within the present structure of the Connell Grain Growers elevator, reports Dell Smick, manager. The bins will be 24 ft. in diameter and 100 ft. high. Mr. Smick said the improvement would cost in the neighborhood of $50,000. A gaping hole burst in the wall of one bin recently, spewing approximately 20,000 bushels of wheat on the ground and into the loading shed.

Volume of futures trading, all contract markets combined, by commodities
Fiscal years ended June 30, 1958, and June 30, 1959

Commodity and unit	1957-58	1958-59	% of increase or decrease
Wheat, 1,000 bu.	5,202,953	4,359,288	— 16.2
Corn, 1,000 bu.	2,011,322	2,008,704	— .1
Oats, 1,000 bu.	453,635	533,266	+ 17.6
Rye, 1,000 bu.	998,266	780,942	— 21.8
Barley, 1,000 bu.	55	15	— 72.7
Flaxseed, 1,000 bu.	10,721	5,529	— 48.4
Soybeans, 1,000 bu.	3,943,177	2,794,406	— 29.1
Grain sorghums, million pounds	*34.0	*21.8	— 35.9
Cottonseed oil, 1,000 lb.	3,572,580	3,425,100	— 4.1
Soybean oil, 1,000 lb.	8,954,580	9,414,060	+ 5.1
Tallow, 1,000 lb.	1,380	60	— 95.7
Bran, tons	†2,400	.....	....
Shorts, tons	†720	.....	....
Middlings, tons	†1,260	.....	....
Cottonseed meal, tons	90,700	53,400	— 41.1
Soybean meal, tons	6,684,900	19,325,000	+189.1

*Equivalent to 607,000 bu. (1957-58), 389,000 bu. (1958-59).
†Trading suspended Nov. 5, 1957.

Futures Trading During 1958-59 Reported by USDA

WASHINGTON — Futures trading in agricultural commodities continued to provide substantial "hedging" markets in the year ended June 30, 1959, although total volume of trading declined.

This was reported by the U.S. Department of Agriculture from data provided by the Commodity Exchange Authority on futures trading in 21 commodities under CEA regulation during the year.

Rodger R. Kauffman, CEA administrator, said merchandisers and processors of wheat, corn and soybeans continued to depend on hedging to reduce price risks, even though market prices ranged narrowly during the year.

Mr. Kauffman said that although soybean trading volume decreased, hedging in soybean futures to cover price risks on large supplies from the record 1958 soybean crop was at an all-time high. And in several commodities with increased trading, including wool, soybean oil and soybean meal, there was record hedging activity during the year, the CEA administrator said.

Hedging in wheat and corn did not change substantially from the previous year, although total volume of trading in wheat declined 16%, Mr. Kauffman said.

Wheat futures trading on all markets, including the Chicago Board of Trade, the Kansas City Board of Trade and the Minneapolis Grain Exchange, amounted to 4.4 billion bushels in 1958-59 against 5.2 billion in 1957-58. The soybean futures volume was 2.8 billion bushels, compared with 3.9 billion in 1957-58. Corn futures trading, at 2.0 billion bushels, was almost unchanged from the previous year.

Futures trading in soybean oil on the Chicago Board of Trade amounted to 9.4 billion pounds, an increase of 5.5% over 1957-58. Hedging in soybean oil was the largest on record. Hedging in cottonseed oil futures on the New York Produce Exchange also increased.

Soybean meal futures recorded an outstanding volume increase during the year. The record 18.8 million tons traded on the Chicago Board of Trade was three times the previous year's volume.

Turkeys Pullorum Tested Up Sharply

WASHINGTON—According to the U.S. Department of Agriculture, heavy white breed turkeys tested during June for pullorum disease totaled 66,177, compared with 11,799 in June, 1958. Testings of other heavy breeds (mostly broad-breasted bronze) totaled 12,596, compared with 7,126 in June last year. The number of light breed turkeys tested during June, 1959, totaled 12,474—down 39% from June, 1958.

The number of all turkeys tested during the testing year July, 1958, through June, 1959, totaled 3,976,912, compared with 3,482,552 during these months a year earlier—an increase of 14%. The number of all heavy breeds tested was up 11%. The number of light breed turkeys was up 34%.

There were 1,609,452 chickens for supplying broiler hatching eggs tested in June, 1959—up 23% from June, 1958. The cumulative total for the testing year July, 1958, through June, 1959, of 27,205,494 was 25% more than during these months a year earlier.

In the states for which comparisons are available, 323,650 chickens were tested in June for supplying eggs for egg-type chicks—up 12% from June, 1958. The number tested July, 1958, through June, 1959, of 13,159,810 was about 1% less than the number tested during this period a year earlier.

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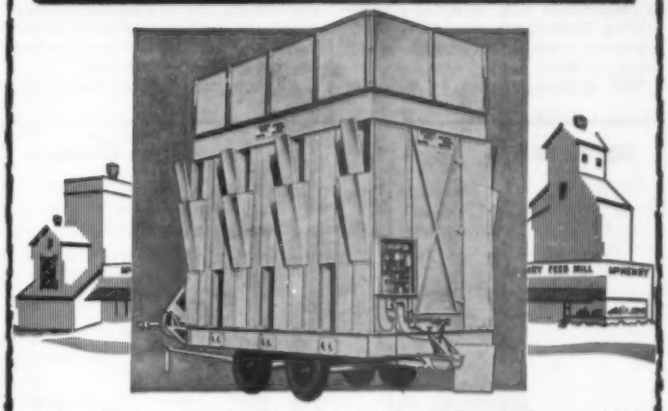

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Pennsylvania Group to Coordinate Egg Production of Independents

By Special Correspondent

LANCASTER, PA.—Although initial organization is being concentrated within a 100-mile radius of Ephrata in Lancaster County, officers of Pennsylvania Best Eggs, Inc., are confident that their new quality-controlled egg program will spread throughout Pennsylvania and benefit all segments of the poultry industry in the state. (Also see earlier story in Feedstuffs, June 27.)

The new corporation has been formed to coordinate production, processing and marketing of eggs produced by independent poultrymen, according to Cliff D. Walton, Paoli, who has been associated with the organization on a part-time consulting basis and who services the poultry industry with various products.

Pennsylvania Best Eggs, incorporated as a non-profit group, will place emphasis on achieving efficiency in producing and marketing quality-controlled eggs.

Egg producers and marketing firms who are willing to and can meet program requirements are being invited to participate in the program. The corporation is preparing a brochure which will outline all requirements involved in agreements.

Feed firms are among those involved in the program.

The program includes an interim or temporary compliance for producers who may not fully meet requirements at present. They will be given more permanent marketing agreements when such requirements are met. Included in the producers' quality control program are such stipulations as age of layers, temperature and humidity of egg room and method of cleaning eggs. Eggs must grade at least grade A and producers must have a minimum of 1,000 layers, an acceptable feeding program and must market all eggs through the program.

Each marketing agreement will be with Pennsylvania Best Eggs, Inc., in cooperation with accepted egg receivers. Each agreement will be made following mutual agreement of all three parties.

Will premium prices be paid for eggs? Payment will be made on the basis of yield, with the premium determined by quality of eggs marketed and the higher yield. The corporation, it was explained, is not engaging in the actual handling of the eggs in any phase, but is serving only as a coordinator of quaity production and marketing. This includes development of both production and marketing of quality-controlled eggs to markets which are quality conscious. Thus, there may be a premium set up by the individual marketing firm participating in a specific agreement with a producer and the corporation. A particular marketing firm might not have all of its producers in the corporation's program, for only those who can meet the rather rigid requirements will be eligible.

Although instigation for the corporation did not come from any feed manufacturer or dealer, representatives of the Miller & Bushong, Rohrerstown feed manufacturing firm, were helpful in developing various phases of the program. There will be associate memberships in the organization through a 40-member advisory council composed of producers, representatives of allied industries and egg receivers. Feed interests will be included in the council.

Primary intent of the corporation is to promote wholesale egg packs of 90% "A" quality, or better. The corporation will not be concerned with brand labels, but it will be concerned with maintenance and guarantee of quality of the eggs going into the cartons.

What are feed specifications in agreements? There are none, and will be none, so long as eggs meet certain yolk color requirements, as indicated by color guides. This phase of the plan, however, is still in the developmental stage, and specifications may be made later to guarantee a more uniform product. Eggs must have yolks within a minimum and maximum color range at present, it was emphasized, and as long as producers' eggs meet quality specifications they may purchase feed and supplies from any company or companies.

All agreements will require rigid quality control to protect not only the producer and marketing firm, but the corporation as well. The program will be coordinated by a manager, with the assistance of the board of directors and the advisory council. The board of directors represent various segments of the poultry industry, including production, marketing, feed milling and servicing of producers with supplies. This was deemed necessary in order to provide a background of information in all phases of the industry and to develop a program which would result in as low cost production and distribution as possible.

Purposes, more specifically, and as outlined in the corporation charter, are: "To promote the encouragment of efficient production of better quality eggs through coordinated, voluntary efforts, and to promote and expand markets for Pennsylvania produced eggs, and to sell, lease, buy, own or maintain any and all real estate for the foregoing. To do all things necessary and incidental to effectuate the purposes thereof."

The corporation came about following a year-long study by many members of the poultry industry in Pennsylvania, whose primary object was to develop a program which would keep Pennsylvania competitive with other areas for the egg market.

During the study, agricultural extension economists from Pennsylvania State University were called upon to present their impressions of the egg industry, not only in Pennsylvania but throughout the U.S. Representatives of the Bureau of Markets, Pennsylvania Department of Agriculture, helped in setting up the inspection program for the corporation.

First officers of the corporation are: Sam Berenson, York, head, Chick Sales Egg Co., Hanover, president; Hank Wentink, sales manager, Miller & Bushong, Rohrerstown, first vice-president; John Copenhaver, Elizabethtown egg dealer, second vice-president; Jay Greider, Jr., Mount Joy producer-hatcheryman, secretary, and Robert Kuipers, New Holland Supply Co., treasurer.

SELLIN' SAM — By Jim Zilverberg

"Tough Day?"

Tranquilizer Fails to Reduce Shipping Shrink

COLLEGE STATION, TEXAS—Slaughter steers tranquilized with intramuscular injections of 50 mg. of perphenazine (Schering Trilafon) lost as much weight during shipment to market as steers not receiving the tranquilizer in tests at Texas A&M College, researchers report.

The 57 steers used in the test were shipped from the Southwestern Great Plains Field Station to market at Ft. Worth, 28 of them having received the tranquilizer, and 29 of them were left as controls with no tranquilizer.

The tranquilized steers lost 58 lbs., or 5.1% while enroute to market, and the control steers lost 60 lb., or 5.3%. Carcass yields, based on live weights taken in Ft. Worth, were 62.4% and 62.3%, respectively, for the tranquilized and control steers, according to Prof. John H. Jones, extension animal husbandman. He noted that the small difference in shrink and carcass yield are not statistically significant.

Texas Firm Offers to Sell 300,000 Shares

DALLAS, TEXAS—The Casco Chemical Corp. has filed a registration statement with the Securities & Exchange Commission offering for sale to the public 300,000 shares of common stock at $1 per share. The underwriters for the sale of the securities will be Pearson, Murphy & Co., Inc., New York.

Casco Chemical, a Texas Corp., does an international business in tallows, fats, vegetable oils and related products. About 20% of the company's sales are to domestic concerns and the remaining 80% are made abroad.

Papa Bear—Somebody's been drinking my whisky.

Mama Bear — Somebody's been drinking my gin.

Baby Bear—Hic!

◆ ◆ ◆

"Why not marry," said Mr. Newlywed to the woman-hater, "and have a wife to share your lot?"

"It sounds all right," was the reply, "but some of these shareholders blossom into directors."

◆ ◆ ◆

Think how a mother kangaroo must feel on a rainy day when the kids can't play outside.

◆ ◆ ◆

On a questionnaire asking: "What is the principal contribution of the automobile age?" the following answer was given by a college student: "It has practically stopped horse stealing."

◆ ◆ ◆

A meek little man walked into a bar, ordered two drinks from the burly bartender, drank one and poured the other into his shirt pocket. After about 10 rounds of this procedure the bartender said, "Pal, why are you pouring the other drink into your shirt pocket?"

The little man jumped up and snarled, "Mind your own business, you big oaf, or I'll come over the counter and whale the daylights out of you."

About that time a blurry-eyed mouse stuck his head out of the man's shirt pocket and said, "That goes for your darned cat, too."

◆ ◆ ◆

The Gal—Don't be so impolite! You've yawned five times while I was talking to you.

The Gob—I wasn't yawning—I was trying to say something.

◆ ◆ ◆

Her father asked his prospective son-in-law if he could support a family, and we have to admire the young man's answer—"No, sir, I was only planning to support your daughter. The rest of you will have to take care of yourselves."

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they used to call me "runt" until I started on feeds with
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SOYBEANS

Continued from page 1)

that another bumper demand year will not be in the making unless beans price themselves out of the market.

That could happen if the market were swamped by a speculative "jag" by the fringe public, which always gets aboard a bull market to take over the long position after the professional or informed speculative interests have obtained all the profits they want.

3. Primarily, acreage is made and will not exceed the most recent crop report level of the U.S. Department of Agriculture. Given a yield of 22 bu. per harvested acre, there is a potential crop of 480 million bushels.

The carryover of old crop beans is a matter of judgment. This reporter leans to a carryover of about 50 million bushels. In its July 1 report, USDA shows a total stock position of all beans, as of June 30, 1959, at approximately 157 million bushels.

As of that same date, in a special working report USDA shows soybeans owned, some sold but not delivered, at a total of 42.3 million bushels, of which nearly 40 million are said to be held at the warehouse level. This report only covers bin site stocks and warehouses and fails to include approximately 25 million bushels held at the farm level either under loan or purchase agreement commitments.

When this internal report of 42.3 million held at the farm level on June 30 is compared with the crop report of July 1 showing only 35 million at farm levels, it must reflect purchase agreement options which probably have been removed as farm option holders exercised their choice.

4. The outlook for next year on the supply side, including carryout and the new crop may not total more than 525 million bushels. This prediction is based on good growing conditions and final acreage figures. The demand outlook is a matter of conjecture—a conjecture on the high side subject to changes in the spring pig crop.

All sources contemplate an export outlook of better than 100 million bushels. Current USDA figures indicate that the bean exports for this year will exceed 100 million bushels, and the optimists think that bean exports in the new crop year will reach a 125-million-bushel total.

It is now understood, however, that this week USDA will reject the proposal to put soybeans on a PL 480 program. Even so, this would not soften the demand level.

5. Dampening the bullishness of the bean market is the other side of the coin.

Swine marketings will produce a larger supply of animal proteins. The cotton crop is certainly headed into larger ground than a year ago. As the old bean crop closes ground, it is possible that the outlook, as forecast by the July 1 stock position report and the internal report on location of CCC owned stocks, may indicate that the crushers are in a comfortable position as far as beans are concerned.

This all adds up to the outlook for edible oil exports henceforth. The oil trade has been waiting on decisions from the Argentine on its commitments for cotton oil from old crop. USDA is waiting for issuance procurement authorizations of as much as 30,000 tons of old crop cotton oil for Argentina. Thus far, internal conditions have deferred the USDA action. USDA is little less than eager to get this oil moving. Failure to get this amount of CSO into export channels will dampen the new crop soybean prospects.

Nevertheless, information from reliable sources indicates that foreign demand for edible fats is heavy and will not diminish the coming oil crop year.

The big edible oil crop is copra. The U.S. is currently planning a resale of stockpiled copra oil. Since this decision was announced, the price of copra oil has fallen 5¢ lb. Cocoanut oil is to the edible oil trade what corn is to the swine industry.

This release of U.S. cocoanut oil stockpiles is nothing less than an addition to the world supply of edible fats. Even if the U.S. stockpile is out of edible condition, it means that new crop Philippine oil will supply western European markets.

Total Soybean Supply

The total supply of soybeans is another important factor. The crop now sizes up, on the basis of good yields and known acreage, at about 485 million bushels. The government now owns about 42 million bushels in bin and warehouse stocks. Farm stocks at government command cannot be more than 20 million bushels. There is on hand about 100 million bushels of beans for crush between now and new crop.

Another factor is the effect of the new lower price support on the new crop. It will be on a national average basis of $1.85 bu.

Price support levels for soybeans have been in past years a fiction. And on the basis of the decline in bean acreage it may again be forecast, without threat of contradiction, that beans will not drop below the support line. In fact, USDA is sitting like a hog in a butter tub, prepared to sell its old crop beans at higher prices than the take-over loan default level.

However, there is always the threat of animal product proteins ready to break any rise in bean end products.

Vegetable Oilseeds

There is no reason to think that the world shortage of edible fats may be reduced this coming oil crop year. Cocoanut oil basis is not likely to recover, despite the dumping of U.S. stockpiles of its reserve of 265 million pounds of cocoanut oil.

It will be sold at a discount, and the market will have to reflect and absorb this discounted price.

One may only feel that the big swine population now indicated, the perennial enthusiasm of the poultry industry and the cattle population will exert a steady demand for oilseed proteins for the coming year, notwithstanding price declines in swine, making for higher soybean prices.

It may not be the handy prospect of $3 beans in March or May, but the wiseman may see higher prices and act accordingly.

There are those who look to higher bean prices ($3 for example) and there are those cautious individuals who ask for assurance of that price level.

There is a big consuming population of animals which can eat bean meal. There will be a heavy Public Law 480 fund to export oils or beans, if necessary, or lard, possibly. All factors add up on the bull side of the market, which is a depressant factor to this reporter, who never believes prices can go as high as the data indicates.

It seems certain that animation of government data would assure the market bull that soybean contracts for new crop are now cheap. A good crop scare would make many comfortable citizens.

Elevator Man Dies

WICHITA, KANSAS — Laurel E. Marshall, elevator superintendent for Soy-Rich, Inc., died enroute to a hospital recently after collapsing in his office. Mr. Marshall was elevator superintendent for 20 years with the Kansas Milling Co. before joining the Soy-Rich firm nine years ago. Survivors include his wife, at home, and his mother, Mrs. David Marshall, Charlton, Iowa.

Rail Rate Cut Giving Buffalo Grain Business

BUFFALO — Buffalo grain dealers and elevator operators are regaining much of the business they lost to ocean-going ships carrying Midwest grain direct from Great Lakes ports to overseas destinations.

A rate cut negotiated by railroads and grain dealers' representatives headed by Frank Catanzarite, executive secretary of the Corn Exchange, and Everett Flinchbaugh, its president, has brought a change in the previously gloomy business outlook for grain shipments by rail to Buffalo and from Buffalo to New York, Philadelphia and Baltimore in the last month.

Negotiations now are in progress among railroads and dealers for similar rate reductions on grain coming from Wisconsin and Minnesota.

The Midwest rate, decreasing the cost of rail movements of Ohio, Indiana, Illinois and Michigan grain, became effective June 18.

Since then, grain shipments to Buffalo have averaged 300 to 400 carloads a day, Mr. Catanzarite said. About 1,000 carloads were shipped here July 20.

TOP OF THE HOPPER

(Continued from page 2)

pulling out of some of the broiler feed operations involving dealer-contractors.

At the same time, there are reports of how more of the large turkey growers in the North are getting into their own feed mixing operations. These are more examples of how, in some places, the lines of demarcation between feed men and poultry and livestock men continue to become more obscure. Feeders become feed millers while the feed millers become feeders, too. Feed manufacturers who get into cattle finishing and feedlot operators who get into feed milling are other examples.

A MASSACHUSETTS EXTENSION poultry specialist, Robert M. Grover, explains why today's feeder must be a practical businessman: The poultry producer, he says, buys his chicks from a hatchery that knows its operating costs. He feeds them with a ration manufactured by a mill that knows its costs. He sells his product through distribution channels which know their costs. Unless he knows his business equally well, he is at a serious disadvantage.

True enough, but one might add that while costs usually are well known by all of these people, things don't always work out just right to enable their prices to recover all of their costs. It isn't just a matter of knowing cost figures. One must know how to incorporate them in planning.

A by-product of the current Food and Drug-stilbestrol problem is increased interest in the estrogenic content of dehydrated forages. This is said to be one of the values of dehydrated alfalfa in feeding cattle. In this connection, the American Dehydrators Assn. has recently authorized a grant for more research on the estrogenic content of dehydrated alfalfa.

AMONG THE disrupting situations developing from the Food and Drug Administration's stand on the new drug-food additives situation is this: A company already holding effective applications for inclusion of additives affected by the FDA ruling cannot under FDA rules produce the feed at another location, such as a new plant. Applications apply to plant location, not to companies.

SOME PEOPLE in one feed company have talked about the possibility of some day having a feed plant every 100 miles in principal feeding areas. Each plant then would serve an area within a radius of 50 miles. Presumably many of the dealers as they are now known would not fit into such a picture to a very great extent. Another company is planning to put more emphasis on complete feeds made in its own mills and less emphasis on dealer-custom mill operators who use a larger manufacturer's concentrates. This firm sees the role of a dealer more as a truck fleet operator who hauls bulk feed directly from the firm's plant to the feeder and provides some service, with a large volume but a relatively low margin per ton.

A feed manufacturer with a large plant and a traditional dealer system is reported considering setting up satellite mills, each of which would serve a few counties. Presumably premixes as well as concentrates would then go out from the main mill to these small mills, which would buy protein as well as grains locally. Another firm already has a setup like this and is planning gradual expansion of it.

SOME NEW RESEARCH findings on pelleting will be reported at the 1959 Feed Production School in Kansas City. One of these projects deals with the conditioning of mash to increase gelatinization of starches in the feed. This, it is reported, can result in tougher pellets and possibly in increased nutritional value. Another project has to do with increasing pellet mill die life through new findings on use of abrasive polishes, metal plating and new alloy metals for dies.

IN SOME BROILER AREAS, the cost of production among some of the more efficient operators has been said to be about 14¢ lb., covering all feed, labor and other costs. Now, it is reported, some of the rather thoroughly integrated and efficient operators are reported to have their costs down to about 13¢ lb. It is little wonder that some firms, unable to get costs down like this, are pulling back from broiler operations, particularly with the continued low prices.

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

Boston: Demand fair; supply adequate; 600 D, 1,500 A 17½¢; 300 D, 2,250 A 18¢; 300 D, 1,500 A 16½¢; 300 D, 750 A 14¾¢; 400 D, 3,000 A 20¢; 300 D, 3,000 A 19½¢; 75 D, 750 A 14½¢ lb.

Minneapolis: Demand fair; supply ample; 10,000 A 34½¢ lb.; 300 D, 2,250 A 19¢ lb.; 300 D, 1,500 A 17½¢ lb.; 300 D, 750 A 16¢ lb.

New York: Demand and supply good; trend firm; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 13½@15½¢, 1,500 A 15½@17¢; 2,250 A 17½@20¢, 3,000 A 19@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19½¢; f.o.b. Massachusetts, New York or Pennsylvania.

Chicago: Demand fair; trend steady; supply ample; straight A feeding oil, with 10,000 units vitamin A per gram, 7@7¼¢ a million units of vitamin A, l.c.l., packed in 55-gal. drums, f.o.b. Chicago, drums included.

ALFALFA MEAL

New Orleans: Demand steady; trend firm; supply adequate; vitamin A 17% $56@57; pellets $52@53.

Boston: Demand slow; supply plentiful; dehydrated 17%, $61@62; suncured $47 nominal.

Portland: Demand steady; supply ample; trend unchanged; suncured 15% $40; dehydrated $63.40.

Los Angeles: Dehydrated meal 17% protein, 100,000 "A" $50 ton bulk; dehydrated pellet meal 17% protein, 100,000 "A" $52@53 ton bulk; suncured meal, 15% protein $42@43 ton bulk; suncured crumbles, 15% protein $44@45 ton bulk.

Cincinnati: Demand fair; supply adequate; trend steady; 17% dehydrated, 100,000 vitamin A $58.50@60.50.

Philadelphia: Demand and supply fair; trend unsettled; 17% dehydrated, $61.50.

Minneapolis: Demand good, production off, bullish trend pushed by extremely dry weather in producing areas; 17% dehydrated, 100,000 units vitamin A, reground pellets $48, bulk, Minneapolis; oiled reground $50 bulk; sacked $4 higher.

Kansas City: Demand good, with some dehydrators reporting record July shipments; some short covering and trading between processors involved in current large turnover; some independent offerings occasionally below blenders' price but they move well and no track accumulations; dehydrated alfalfa meal 17% protein and 100,000 units of vitamin A guaranteed on arrival; reground pellets $46@47, with blenders' prices at the higher end of the range; greased reground pellets $49, sacked; bulk pellets $41@42; 18% protein and 125,000 A meal $52, sacked; 20% protein and 150,000 A $57; suncured meal market unchanged and slow; No. 1 fine ground $37@40, No. 1 ¼-inch $35@38, No. 2 ¼-inch $32@35.

Seattle: Demand fair; trend steady; supply good; delivered truck loads, 15% protein suncured $45; delivered truck loads 136,000 A unit dehydrated $68.

St. Louis: Demand slow; supply ample; trend steady; suncured, 13% fine $41; dehydrated 17%, 100,000 A demand fair, trend steady, supply ample, $52.

Omaha: Demand good; trend strong; supply ample; 17% dehydrated, 100,000 A units, bulk pellets, $41; sacked meal, $45, both Omaha basis.

Buffalo: Demand and supply fair; trend higher; $69 sacked, Boston.

Chicago: Demand good; trend steady; supply fair; carlots, 17% dehydrated with 100,000 units vitamin A guaranteed, $53.50; 13% No. 1 green suncured, $43.70.

Ft. Worth: Demand fair; offerings sufficient; dehydrated 17% 100,000 A $53.80 rail, truck $53@54; suncured 13% ¼-inch grind No. 1 $41@42 truck.

ANIMAL FATS (STABILIZED)

New Orleans: Demand fair; supply adequate; trend steady; 6¾@7¢ lb. tank cars.

Boston: Demand very slow; supply ample; tallow, 6½¢ lb.; yellow grease, 5¾¢ lb.

Louisville: Demand dull; supply good; trend weak; bleachable white 6¾¢ lb.; white tallow 6¾¢ lb.; yellow grease 6½¢ lb.

Kansas City: Demand slow; trend lower; supply ample; 6¼¢ lb., tank cars, for bleachable fancy tallow.

Chicago: Demand easier; trend lower; supply ample; bleachable fancy tallow: Tank truck or carlots, per cwt., $6.75; yellow grease, per cwt., $6.37½.

Atlanta: Demand fair; trend steady; supply ample; 6½¢ lb., bulk, f.o.b. Georgia and Alabama producing mills.

St. Paul: Demand fair, with let up in feed industry demand; supply very ample; bleachable fancy tallow 6¼¢ lb., f.o.b. producer's plant.

Ft. Worth: Demand fair; supply ample; prime tallow, tank cars, 6¾¢; drums 7¾¢, f.o.b. north Texas packing plants with returnable drums.

San Francisco: Demand fair; supply ample; bleachable fancy 6¾¢ lb.; yellow grease 5¾¢ lb.

BARLEY FEED

New Orleans: Demand slow; supply ample; trend unchanged; $59@60.

Boston: Demand slow; supply good; $46.

Portland: Demand good; supply ample; trend lower; rolled $56, ground $54.

Los Angeles: Demand slow; supply ample; trend unchanged; standard rolled $2.95; standard ground $2.95, each per cwt. sacked.

Philadelphia: Demand slow; supply fair; $47.

Ogden: Supply average; rolled, $46@61; (whole barley, $38@43).

Chicago: Demand quiet; supply ample; trend steady; per ton, carlots, $36.

Baltimore: Demand poor; supply adequate; trend steady; per ton, carlots, $46.50.

San Francisco: Demand fair; supply ample; rolled $56.50, ground $55.50.

Seattle: Demand and supply good; $45, bulk truck loads (new crop).

BENTONITE (SODIUM)

Chicago: Demand steady; trend firm; supply adequate; f.o.b. Wyoming and South Dakota shipping points: granular, 30 mesh $16.50; fine granular, #0 to 100 mesh $13.75; powder, 200 mesh $13.50, f.o.b. Belle Fourche, S.D., minimum 30-ton carlots, 80 granular $13.50 net; 200 mesh, fine $13.25 net.

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 30-ton carlots: 80 granular $31.50; 200 mesh fine $31.

BLOOD FLOUR

Louisville: Demand dull; trend steady; supply good; $80@85 ton.

BLOOD MEAL

New Orleans: Demand slow; supply normal; trend unchanged; $85@90.

San Francisco: Demand fair; supply ample; $5 per unit of ammonia.

Ogden: Supply average; $100 per ton in 100 lb. bags, f.o.b. Ogden.

Chicago: Demand fair; trend easier; supply ample; per ton, carlots, 100 lb. bags, guaranteed 80% protein, $125.

Portland: Demand slow; supply ample; trend unchanged; $115.

Los Angeles: Demand slow; supply light; trend weak; $5.75 per unit of ammonia.

Louisville: Demand slow; trend steady; supply good; $80@85 ton.

BONE MEAL (STEAMED)

New Orleans: Demand fair; supply light; trend firm; $95@98.

San Francisco: Demand good; supply ample; $75.

Chicago: Demand fair; supply ample; trend easier; per ton, carlots, 100 lb. bags, $97.50.

Buffalo: Demand good; supply limited; trend steady; $105.

Ft. Worth: Demand good; supply moderate; $90 sacked, f.o.b. Ft. Worth local manufacture.

Boston: Demand and supply steady; $90.

Los Angeles: Demand fair; supply adequate; trend unchanged; imported $78 ton in 20 ton lots.

Cincinnati: Demand fair; supply ample; trend easy; $95 Cincinnati.

Portland: Demand slow; supply ample; trend unchanged; $102.

Louisville: Demand slow; trend steady; supply light; $75@80 ton.

Seattle: Demand good; supply limited; trend firm; $89, delivered truck lots.

BREWERS DRIED GRAINS

Cincinnati: Demand fair; supply adequate; trend steady; $46.

New Orleans: Demand fair; trend easy; supply ample; $48@50.50.

Boston: Demand fair; supply adequate; 26%, $50; 22%, Canadian, $49.50.

San Francisco: Demand fair; supply ample; $54.

St. Louis: Demand fair; supply ample; trend steady; $42.

Ft. Worth: Demand fair; supply sufficient; 26% protein $49@50 August delvd. Ft. Worth.

Chicago: Demand and supply fair; trend upward: per ton, carlots, 26% protein, $44.

Buffalo: Demand and supply fair; trend steady to higher; $41.50 bulk, Boston.

Los Angeles: Demand slow; supply adequate; trend unchanged; $49.50 bulk, $53.50 sacked.

Louisville: Demand and supply good; trend steady; $45 ton.

Philadelphia: Demand and supply fair; $50.75.

Seattle: Demand slow; trend steady; supply ample; $12 cwt.

BREWERS DRIED YEAST

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

St. Louis: Demand good; trend steady; supply ample; carlots $9.50@10 cwt.; ton lots $10.50 cwt.; less than ton lots $11.50 cwt.

Milwaukee: Demand fair; trend steady; supply adequate; carlots $10@11 cwt.; l.c.l. $10.50@12.25 cwt.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New York: Carlots 9½¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

Boston: Demand and supply steady; 11¢ lb.

San Francisco: Demand fair; supply good; 10¢ lb.

Buffalo: Demand fair; trend steady; supply ample; $9.35 cwt.

Chicago: Demand fair; trend steady; supply ample; carlots $9.50@10.50 cwt.; l.c.l. $9.75@12.25 cwt.

Omaha: 10½¢ lb.

Portland: Demand good; supply ample; trend unchanged; 8½¢.

Louisville: Demand good; trend steady; supply ample; 10@10½¢ lb.

Los Angeles: Demand slow; trend unchanged; supply adequate; 10¢ lb. in 5-ton lots; 11¢ lb. in 1-ton lots; 12¢ lb. in less than 1-ton lots.

BUTTERMILK-CONDENSED

Los Angeles: Demand slow; supply adequate; trend unchanged; 5½¢ lb. in 100 lb. lots; 4½¢ lb. in 500 lb. lots.

New Orleans: Demand slow; supply average; trend unchanged; $4.25@4.30 cwt.

Boston: Demand slow; supply tight; 3¾¢ lb.

San Francisco: Demand fair; supply good; $5.

Chicago: Demand fair; supply ample; trend steady; per cwt., carlots, $3.25@3.50.

Ogden: Supply normal; $4.40 per 100 lb. drum.

Louisville: Demand very dull; supply near zero; trend steady; $4.25 cwt. nominal.

Philadelphia: Demand slow; supply light; $4.25.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight)

New York: Crystals $15.28, flour $10.28.
Buffalo: Crystals $16.11, flour $11.11.
Toledo: Crystals $17.96, flour $12.96.
Boston: Crystals $16.53, flour $11.63.
Limecrest, N.J.: Crystals $10.50, flour $5.50.

CALCIUM CARBONATE

Minneapolis: Fine grind, 50-lb. bag $12.25, 100-lb. bag $11.50; bulk, boxcar $10; bulk hopper $9.50; coarse grind $1 premium, delivered Minneapolis.

Chicago: Demand steady; trend firm; supply adequate; fine grind, plain, 100-lb. bags $9.54; bulk, in hopper cars $7.54; bulk in boxcars $8.04; granular grind $1 premium.

Los Angeles: Demand slow; supply adequate; trend unchanged; $10.15 ton, sacked, flour; $11.15 ton, sacked, meal.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, truck lots.

CHARCOAL

Chicago: Demand and supply fair; trend steady; per ton, carlots, in 50 lb. multiwalls, $110.

Boston: Demand and supply steady; $100.

Los Angeles: Demand fair; supply adequate; trend unchanged; $156 sacked in less than ton lots; $144.40 sacked in ton lots.

San Francisco: Demand steady; supply ample; $141.

COCONUT OIL MEAL

Los Angeles: Demand slow; trend steady; supply moderate; copra cake $81@82 per ton bulk.

San Francisco: Demand good; supply tight; solvent $68.

Portland: Demand slow; supply ample; trend unchanged; $68.

Seattle: Demand fair; trend firm; supply ample; $80, delivered via truck (California).

COD LIVER OIL (FORTIFIED)

Boston: Demand fair; supply adequate; 600 D, 2,250 A 19¢ lb.; 300 D, 3,000 A 20½¢; 300 D, 2,250 A 18½¢; 600 D, 1,500 A 18¢; 300 D, 1,500 A 17¢.

New York: Demand and supply good; trend firm; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 14½@15½¢, 1,500 A 18½@20¢, 2,250 A 18½@21¢, 3,000 A 21½@23¢; 600 ICU, 1,600 A 17½@19½¢, 2,250 A 20@22¢, 3,000 A 22@23¢; f.o.b. Massachusetts, New York or Pennsylvania.

CONDENSED FISH SOLUBLES

Boston: Demand and supply good; 4½¢ lb.

New Orleans: Demand light; supply normal; trend steady; $75@80, f.o.b. Gulf.

Los Angeles: Demand slow; trend unchanged; supply adequate; 4½¢ lb.

New York: Demand fair; trend steady; supply tight; 3½@3¾¢ lb., f.o.b. eastern shore.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $46.90, meal $67.90.
Atlanta: Feed $52.98, meal $73.98.
Birmingham: Feed $51.64, meal $72.64.
Boston: Feed $51.84, meal $72.84.
Chicago: Feed $40, meal $61.
Cleveland: Feed $48.14, meal $69.14.
Denver: Feed $50.51, meal $71.51.
Ft. Worth: Feed $48.96, meal $69.96.
Indianapolis: Feed $45.36, meal $66.36.
Kansas City: Feed $40, meal $61.
Louisville: Feed $47.21, meal $68.21.
New Orleans: Feed $50.20, meal $71.20.
New York: Feed $52.43, meal $72.43.
Norfolk: Feed $50.71, meal $71.71.
Philadelphia: Feed $51.02, meal $72.02.
Pittsburgh: Feed $48.96, meal $69.96.
St. Louis: Feed $40, meal $61.

CORN OIL MEAL

Cincinnati: Demand fair; supply adequate; trend steady; $46.50.

Louisville: Demand dull; trend strong; supply normal; $49.45 ton, up $2 ton.

COTTONSEED OIL MEAL

San Francisco: Demand good; supply tight; 41% $76, 44% $78.50.

Ogden: Supply normal; 41%, $80@85.

Ft. Worth: Demand poor; supply sufficient; 41% old process $65@66, solvent 1% fat added $63.20, pellets $2 additional; cottonseed hulls $20.

Kansas City: Demand slow, because of relatively cheaper soybean meal, but some movement going on; supply tight and prices stronger than week ago; old process $68.50@69, sacked, Memphis; solvent $66.50@67.

Atlanta: Demand fair; supply limited; trend steady; 41% $69, f.o.b. Georgia and Alabama producing mills, immediate prompt; new crop, $60 f.o.b.

Buffalo: Demand poor; supply adequate; trend steady to lower; $81 sacked, Boston.

Chicago: Demand good; trend higher; supply fair; per ton, carlots, hydraulic, $67.50; solvent $67.50, basis Memphis.

St. Louis: Demand slow; trend steady; supply limited; solvent $72.

Portland: Demand slow; supply ample; trend unchanged; $80.

Los Angeles: Demand moderate; supply little more available; trend weaker; $72@73 ton bulk.

Boston: Demand very slow; supply ample; $78@79.

New Orleans: Demand fair; trend steady; supply limited; $79@80.

Wichita: Demand fair; supply sufficient; 41% old process $74.50.

Cincinnati: Demand poor; trend higher; supply adequate; new process $72.60.

Louisville: Demand slow; supply normal; trend steady; old process $73 ton; new process $72 ton.

Philadelphia: Demand slow; supply fair; $79.50.

Seattle: Demand fair; trend firm; supply ample; $86, delivered truck lots 41% expeller process.

Omaha: Demand and trend easy; supply ample; 41% solvent, $64.10 bulk delivered Omaha.

CURACAO PHOSPHATE

New York: Trend steady; ground Curacao phosphate in 100-lb. bags $48, f.o.b. cars or trucks, New Orleans, Jacksonville, Fla., or Philadelphia.

D ACTIVATED ANIMAL STEROL (POWDERED)

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 18¢ lb., warehouse.

Kansas City: Demand fair; supply adequate; trend steady; 1,500 ICU 9¾@10¢ lb.; 3,000 ICU 11½¢ lb.

New York: Demand and supply good; trend firm; price per lb. in 50- and 100-lb. bags, or 100-lb. drums: 1,500 ICU 8@12¢ bagged, 12@13¢ drums; 3,000 ICU 13@17¢ bagged, 17@18¢ drums; f.o.b. or delivered basis Pennsylvania, Delaware or New York.

D ACTIVATED PLANT STEROL (POWDERED)

Chicago: Demand good; supply fair; 4,000,000 U.S.P. units per lb., 15¢ lb. in ton lots, less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 23¢ lb., ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $71.50 net ton, f.o.b. Houston, 100-lb. multiwall paper bags, $68.50 in bulk.

Cincinnati: 18% phosphorus $81; 13% phosphorus $64.98, f.o.b. Cincinnati.

Tupelo, Miss.: Minimum phosphorus 13%, minimum calcium 31%, maximum fluorine .12%, $51 net ton, f.o.b. Tupelo in 100-lb. multiwall bags, $48 in bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum calcium 36%, maximum fluorine .18% $69.12 net ton, f.o.b. Wales in 100-lb. multiwall bags, $3 less in bulk.

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; carlots $63.50, truck load $64.25, net ton, f.o.b. Coronet in 100-lb. multiwall bags $60.50 and $61.25 in bulk.

Cincinnati: 18% phosphorus $81; 13% phosphorus $64.98, f.o.b. Cincinnati.

DICALCIUM PHOSPHATE

Portland: Demand good; supply ample; trend unchanged $115.

Minneapolis: 18.5% phosphorus, 24% calcium granular or fine ground $94.10, delivered; $3 less in bulk.

Trenton, Mich.: Minimum phosphorus 18½%, maximum fluorine 0.003% guaranteed $83.25, f.o.b. Trenton in 100-lb. multiwalls; minimum phosphorus 21%, maximum fluorine 0.003% guaranteed $94.50, f.o.b. Trenton in 100-lb. multiwall bags.

Chicago: Stock food grade, 18.5% phosphorus, 20,000 lb. or more $83.25 net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn.; less than 20,000 lb. $93.25; 21% phosphorus, 20,000 lb. or more $94.50, basis Chicago Heights and Nashville; less than 20,000 lb. $104.50; bulk boxcars or hoppers $3 net ton less than bagged material.

Bonnie, Fla.: Minimum phosphorus 18½%, granular $83.25; freight equalized with closest producing point, carload basis.

Texas City, Texas: 18.5% minimum phosphorus, 21% minimum calcium, 24% maximum, granular $77.70 net ton, f.o.b. Texas City in 100-lb. multiwall bags; bulk, boxcars and hoppers, $3 net ton less than bagged material.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $83.25, f.o.b. Columbia, in 100-lb multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Cincinnati: 18½% phosphorus $92@93.

DISTILLERS DRIED GRAINS

Cincinnati: Demand fair; trend steady; supply adequate; $52.50.

Boston: Demand steady; supply adequate; light, $60; dark, $61.

Buffalo: Demand fair; trend steady; supply good; $56 bulk, Boston.

San Francisco: Demand good; supply ample; solubles $85.

Louisville: Demand fair; trend steady; supply light; very little production for August; bourbon grains, light $50; dark $52; solubles $77.

Philadelphia: Demand fair; supply light; trend unsettled; $60.

Seattle: Demand good; supply limited; trend steady; $67.50, delivered truck lots.

DRIED BEET PULP

New Orleans: Demand fair; trend unchanged; supply limited; $62@63.

Boston: Demand fair; supply adequate; $59@60.
Atlanta: No demand; trend steady; supply limited; $68.25 delivered.
San Francisco: Demand good; supply fair; $51.50 in bulk.
Ft. Worth: Demand slow; offerings light; carlots, 50-lb. papers, $63, delivered Ft. Worth.
Buffalo: Demand fair; supply good; trend steady to lower; $59 sacked, Boston.
Ogden: Supply nominal; $44@48.
Portland: Demand good; supply scarce; trend unchanged; $59.
Los Angeles: Demand good; trend easier; supply increased; molasses $47.80@48.60.
Seattle: Demand good; supply limited; trend firm; $52, delivered car lots.

DRIED BUTTERMILK

San Francisco: Demand fair; supply ample; 11½¢ lb.
Chicago: Demand fair; trend unchanged; supply ample; per cwt., carlots, medium acid, $10.75; sweet cream, $11@11.25.
Ogden: Supply normal; $8.50 per 100 lb. bag.
Buffalo: Demand fair; trend steady; supply ample; $11.85 cwt.
Los Angeles: Demand slow; supply adequate; trend unchanged; 11¾¢ lb.
New Orleans: Demand fair; trend easy; supply normal; $11.50@12 cwt.
Louisville: Demand slow; trend steady; supply ample; 11½@12¢ lb.

DRIED CITRUS PULP

Atlanta: Demand fair; trend weak; supply good; $37.50@40 f.o.b. Florida producing mills; meal $33.50@35.
San Francisco: Demand and supply fair; meal $54.
Buffalo: Demand poor; trend steady; supply adequate; $37.50 sacked, f.o.b. Florida points.
New Orleans: Demand fair; supply good; trend strong; $40@45, f.o.b. Florida points.
Boston: Demand fair; supply adequate; $58.48.
Los Angeles: Demand and trend steady; supply moderate; orange pulp $43 bulk; lemon pulp $42 bulk.

DRIED SKIM MILK

Louisville: Demand slow; trend easy; supply normal; 11@11½¢ lb.
New Orleans: Demand fair; supply ample; trend unchanged; $11.50@12 cwt.
Boston: Demand and supply good; 12¢ lb.
San Francisco: Demand and supply fair; 13½¢ lb.
Buffalo: Demand fair; trend steady; supply ample; spray $10.65 cwt.
Ogden: Supply normal; $15.15 per 100 lb. drum.
Chicago: Demand good; supply ample; trend steady; per cwt., carlots, $10.40@10.65.
Portland: Demand good; supply ample; trend unchanged; 13¢.
Cincinnati: Demand fair; trend steady; supply adequate; 10½¢ lb.
Los Angeles: Demand slow; trend steady; supply adequate; 14¢ lb. in less than ton lots; 13¾¢ lb. in ton lots.
Philadelphia: Demand slow; supply light; $12.50.
Minneapolis: Demand good; trend firm; supply scarce; 11¢ lb.

DRIED WHEY

San Francisco: Demand steady; supply good; $5.75 cwt.
Ogden: Supply average; $6.90 per 100 lb. bag.
Kansas City: Demand fair; trend steady; supply adequate; regular and partially delactosed $5.50 cwt., producers' plants.
Ft. Worth: Demand fair; supply adequate; carlots, standard ₩ sacked, delivered Ft. Worth; $6.25, f.o.b. warehouse Ft. Worth.
Chicago: Demand fair; supply adequate; trend firm; per cwt., carlots, $5.50, f.o.b. plant.
Los Angeles: Demand slow; supply adequate; trend unchanged; $6.10 cwt. in carloads; $6.35 cwt. in l.c.l.
Portland: Demand good; supply ample; trend unchanged; $7.
New Orleans: Demand good; supply ample; trend steady; $6@6.50 cwt.
Boston: Demand steady; supply fair; 5½¢ lb.
Cincinnati: Demand fair; supply adequate; trend steady; $6.15 cwt.
Louisville: Demand slow; trend steady; supply normal; 6@6½¢ lb.

Philadelphia: Demand slow; supply light; $6.50.
Seattle: Demand and trend steady; supply good; $6.40 per cwt. ex-warehouse l.c.l.
Minneapolis: 40 mesh, $5.65 cwt., producer's plant; standard, $5.50 cwt., producer's plant.

FEATHER MEAL (HYDROLYZED)

Ft. Worth: Demand excellent; supply very limited for nearby deliverey; 85% to 87% protein $96, f.o.b. trucks north Texas plants.
Boston: Demand quiet; none offered; withdrawn.
Atlanta: Demand fair; supply good; trend steady; $88, f.o.b. Georgia and Alabama producing mills.
Los Angeles: Demand fair; trend unchanged; supply adequate; $1 a unit of protein.
Salisbury, Md.: Demand good; supply limited; $98, f.o.b. bulk, sacked $4 more.

FISH MEAL

Portland: Demand steady; supply ample; trend unchanged; $2.10.
Boston: Demand spotty; supply ample; $130, f.o.b. Gloucester.
Ogden: Supply average; $2.20 per unit, f.o.b. Coast, 65%, $176@178.
San Francisco: Demand slow; supply ample; $2.10 per unit of protein.
Buffalo: Demand fair; supply ample; trend steady; 60% protein, Menhaden, $140, bulk; $145 sacked.
Chicago: Demand quiet; trend easier to steady; supply ample; carlots; Eastern Menhaden meal $130 and Gulf, $128@130; scrap, Eastern Menhaden, $126 and Gulf, $124@126. Eastern white fish meal, $130; herring meal, $2.10 per unit of protein up to 73%, Northeast Redfish meal, $130.
Atlanta: Demand fair; trend steady; supply good; 69% menhaden $128, f.o.b. Atlantic and Gulf ports.
Ft. Worth: Demand increasing; supply sufficient; 60% Menhaden $135; 60% Angola $137, delivered Ft. Worth.
New Orleans: Demand fair; supply normal; trend steady; Menhaden 60% $128@134; scrap $124@130, f.o.b. Gulf.
Los Angeles: Demand slow; small offerings; trend weaker; local production 60% protein $2.17½ per unit.
Cincinnati: Demand fair; supply adequate; trend steady; $160.
Louisville: Demand slow; trend steady; supply light; $160, nominal.
Seattle: Demand and supply good; trend steady; $2.10 per unit protein ex-dock (new crop Alaska).
Minneapolis: Demand and supply fair; trend steady; Gulf menhaden $148, delivered; 60% blended $180, 70% herring $2 per unit, West Coast.

HAY

Louisville: Demand very dull; trend weak; supply good; No. 1 local hay, any variety $23@25, No. 2 about $2 less; straw $18@20.
Los Angeles: Demand steady with lighter offerings; U.S. No. 1 $31@33; U.S. No. 2 leafy $29@30; U.S. No. 2 green $29@30; U.S. No. 2 $26@27.
Wichita: Demand fair; supply sufficient; prairie $17.50, alfalfa $15@18.
Portland: Demand good; supply ample; trend unchanged; $32.
Boston: Demand and supply steady; No. 2 timothy, $41@43.
Cincinnati: Demand fair; trend steady; supply adequate; No. 1 timothy $24; No. 1 second cutting green alfalfa $31; mixed $27; wheat or oat straw $19.
Ft. Worth: Demand fair for alfalfa, practically nil for prairie and Johnson grass; supply sufficient; carlots, baled, No. 1 alfalfa $36@38; No. 2 $34@36; No. 2 prairie $26@28; No. 2 Johnson $24@26 delivered Texas common points.
Ogden: Supply normal; $1@1.35 bale; $20 ton in the barn.
Philadelphia: Demand slow; supply light; $25@26.
Seattle: Demand good; trend firm; supply fair; $32, delivered truck lots U.S. No. 2 green (new crop).

HOMINY FEED

Cincinnati: Demand good; trend higher; supply adequate; $47.50.
Boston: Demand slow; supply ample; $48, bulk.
Chicago: Demand improved; supply fair; trend higher; carlots, $44.
Kansas City: Demand fair; trend about steady; supply moderate for bulk, but sacked hard to buy; yellow $40.50@41, $4@7 more for sacked.
Buffalo: Demand fair; trend steady to lower; supply good; $48 bulk, Boston.
St. Louis: Demand slow; supply ample; trend lower; $43.50.
New Orleans: Demand slow; supply adequate; trend steady; $53@53.50.
Louisville: Demand dull; trend steady; supply light; $50.
Seattle: Demand fair; trend firm; supply good; $57, delivered sacked carlots.

LINSEED OIL MEAL

Minneapolis: Thin supply and demand, slow trading; solvent $61@61.50 bulk, Minneapolis for August; $64 for October-December.
Louisville: Demand slow; trend steady; supply light; old process $80.50; new process $70.50.
Wichita: Demand good; supply sufficient; 34%, $82.50.
New Orleans: Demand slow; supply ample; trend steady; $80@81.
Boston: Demand slow; supply plentiful; 34%, $84.
Los Angeles: Demand and trend steady; light offerings; local production, 29% protein $71 bulk.
San Francisco: Demand fair; supply ample; $75.
Chicago: Demand steady; supply fair; trend unchanged; carlots, solvent, $61.50; hydraulic $69.50, basis Minneapolis.
Ft. Worth: Demand slow; supply sufficient; Texas production 34% O.P. $81.50, rail or truck.
Omaha: Demand fair; trend steady; supply ample; 34% solvent, $67.30 bulk Omaha basis; 32% old process, not available.
Portland: Demand slow; supply ample; trend unchanged; $87.
Cincinnati: Demand poor; trend steady; supply adequate; new process $80.
Philadelphia: Demand and supply fair; trend unsettled; 34%, $83.50.
Seattle: Demand fair; supply limited; trend steady; $90, delivered car loads 34% protein (Montana).
Kansas City: Demand fair; trend firm; supply tight; solvent $61.50 bulk, Minneapolis.

MALT SPROUTS

New Orleans: Demand fair; trend steady; supply ample; $40@42.
Boston: Demand quiet; supply limited; $42.50 nominal.
Chicago: Demand fair; trend easier; supply ample; No. 1, carlots, uneven bags, $34; bulk, $27.
Cincinnati: Demand fair; trend steady; supply adequate; No. 1, $42.

MEAT AND BONE MEAL

Cincinnati: Demand fair; supply ample; trend easy; 50% meat and bone scraps $85, Cincinnati.
Los Angeles: Demand improved; increased offerings; trend weaker; scraps, 50% protein $1.75 per unit bulk.
Portland: Demand steady; supply ample; trend unchanged; $1.75.
Wichita: Demand heavy; supply insufficient; 50% $97.50, f.o.b. plant; 55%, no quotations, no offerings.
New Orleans: Demand easy; supply ample; trend steady; $90@93.
Boston: Demand very cautious; supply plentiful; trend easier; $1.40 per protein unit; converted 50%, $82.50.
St. Paul: Demand fair; supply adequate; downward trend; $86@91.
New York: Demand fair; trend lower; supply tight; 50% $77.50, 55% $85, bulk; 50% $80, 55% $87.50, sacked.
San Francisco: Demand fair; supply ample; $1.75 per unit of protein in bulk.
Buffalo: Demand fair; trend steady; supply ample; 50% meat scraps $82.50, bulk; $87.50 sacked.
Ft. Worth: Demand fair; supply sufficient; meat and bone 50% $87, f.o.b. or delivered Ft. Worth.
Kansas City: Demand soft; trend easy, although supply is very light; 50% meat and bone meal $82.50@85 bulk, $2.50 more for sacked.
Chicago: Demand and supply fair; trend easier; carlots, 100 lb. bags, $92.50.
Omaha: Demand slow; trend easy; supply ample; $92.50.
Ogden: Supply normal; $97.50 in 100 lb. bags.
St. Louis: Demand slow; supply ample; trend lower; $86.
Louisville: Demand slow; trend steady; supply good; $80@85.
Seattle: Demand good; trend steady; supply ample; $97.50, ex-warehouse 50% protein.

MILLFEED

Minneapolis: Demand good; supply light; trend firm; middlings $37@38, bran $34@34.50, red dog $49@51.
Kansas City: Demand improved; supply moderate; trend higher; millfeed cheap relative to other feeds and grains and this has brought out extensive buying, with feed manufacturers prominent in purchasing; good mill door truck demand also; bran $31.50@32.25, shorts $39.50@40.25, sacked; bran $27.25@28, midds. $33.50@34.25, shorts $34@34.75, bulk.
Wichita: Demand fair for bran, heavy for shorts; supply sufficient for bran, insufficient for shorts; basis Kansas City: Bran $30.75@31.25, shorts $39.25@39.75; bran advanced 50¢, while shorts were up $2.50@3, compared with the preceding week.
Ft. Worth: Demand excellent; offerings limited; carlots, burlaps, bran $41, gray shorts $48.50; bulk middlings $42.50; delivered Texas common points; $1 higher on bran, $1.50 higher on shorts and $3 higher on middlings compared with previous week.
Chicago: During the week ending July 29, price action in millfeeds was anything but uniform. The feature being a rather substantial decline in red dog, the first in a long while. This item was being moved at some rather fancy premiums over both bran and standard middlings. Now, with the latter two showing firmness and some strength, while red dog has reversed its recent trend, the spreads have narrowed up perceptibly. While demand for the heavy feed has slackened materially, there was some fairly heavy buying going on in both standard bran and standard middlings, some for very nearby and other for more deferred shipment. Quotations, carlots: Standard bran, sacked, $39 and bulk $34; standard middlings, sacked $42 and bulk $37.50; red dog, sacked $51.50@53.50 and bulk $47.50@49.
Omaha: Demand good; trend strong; sup-

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ply ample ;sacked bran $32; sacked gray shorts $41; bulk standard midds. $35, all Omaha basis.

Cincinnati: Demand fair; trend steady; supply adequate; bran $40; middlings $47.

St. Louis: Sacked, bran $37@37.50, shorts $45@46.50; bulk, bran $32.25@32.75, shorts $40.50@41, middlings $38.50@39.

Boston: Demand cautious; supply ample; bran $45.50, middlings $51.

Buffalo: The quiet spell in trading continued. Buffalo price structures reflected nothing. As the eastern market just drifted, the western market advanced and showed some life. The mixer business continued in the lull that has prevailed for the past couple of weeks. The market may be called a "weather market." No Canadian competition entered into trading here. Bran was off 50¢ from last week, while midds. showed no change. Red dog was off $1 from a week ago. Quotations July 29: Bran, bulk, $31@31.50; sacked, $36.50@37; midds., bulk, $37.50@38; sacked, $43@43.50. Red dog, bulk, $52@52.50; sacked, $56.50@57.

Philadelphia: Demand slow; supply fair; bran $45, standard middlings $49, red dog $67.50.

New York: Demand fair; trend steady; supply good; bran $44@44.50, standard midds. $50.50@51.

New Orleans: Demand fair; trend steady; supply normal; bran, sacked $42.50@43.25, bulk $38.75@39.50; shorts, sacked $50.75@51.50, bulk $44@44.75.

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Louisville: Demand fair; supply ample; trend strong; bran $42.10; mixed feed $46.85; shorts $52.10; midds. $49.30.

Seattle: Demand good; supply limited; trend strong; $43, delivered common transit points carlots.

Portland: Demand good; supply limited; trend higher; $40.

Ogden: Supply average; to Utah and Idaho: Red bran and millrun, $40; midds., $45. To Denver: Red bran and millrun, $47; midds., $52. To California: Red bran and millrun, $47.50; midds., $52.50, f.o.b. San Francisco and Los Angeles.

San Francisco: Demand good; supply tight; millfeed $45.50; red bran $48.50.

Los Angeles: Standard millrun $44.50@45.50 bulk; improved demand; firmer trend; lighter offerings; red bran $46@47 bulk, fair demand; firmer trend; not too plentiful.

MINERAL FEED

Sioux City: 50-lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.

Ft. Worth: Demand fair; supply sufficient; all-purpose granules $90, block $97; mineral phosphorus 6% granules $106, block $113; cattle-sheep mineral 7% phosphorus granules $100, block $107; hog mineral phosphorus 3½% granules $87, phosphorus 2% $77 (all in 50-lb. paper bags).

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

Ogden: Supply average; $113 ton in 50-lb. blocks; $103, granular, 50-lb. bags.

Wichita: Demand good; supply sufficient; all-purpose with iodine, 50-lb. blocks $97.50, 100-lb. bags $92.50, f.o.b. plant.

Portland: Demand slow; supply ample; trend unchanged; $48.

Seattle: Demand fair; trend steady; supply good; mixer mineral $48, ex-warehouse; all-purpose mineral $55, ex-warehouse.

MOLASSES

San Francisco: Demand and supply good; $21.50, f.o.b. cars, Richmond, Cal.

Buffalo: Demand fair; trend steady; supply good; 16½¢, f.o.b. Albany.

Atlanta: Practically no demand; trend steady; supply ample; citrus $19@22.50, bulk, f.o.b. producing mills.

Minneapolis: Demand fair; trend steady; supply ample; $32.50, tank trucks, delivered.

New York: Demand fair; trend steady; supply good; blackstrap 16¢ gal., tank cars, tank wagons, f.o.b. New York.

Ft. Worth: Demand fair; supply sufficient; blackstrap 12¼¢ gal., f.o.b. Houston, delivered Ft. Worth truck $27.65, seller's market price on date of shipment.

Kansas City: Demand light; trend firm; supply ample with plenty offered for sale at current prices; 11¼¢ gal., tank cars, New Orleans. For spot, 11½¢ for August, and 11¾¢ for October-December.

St. Louis: Demand slow; supply ample; trend steady; 11¼¢ gal., New Orleans.

New Orleans: Demand good; supply ample; trend steady; 11¾¢ gal., tank cars and trucks; 600-lb. customers drums $8.26.

Boston: Demand very slow; trend easier; supply plentiful; 16½¢ gal. in tankcars.

Cincinnati: Demand fair; trend steady; supply adequate; 11¾¢ gal., New Orleans.

Los Angeles: Demand good; trend steady; supply adequate; $21.50, bulk, f.o.b. tank cars; $21.75, bulk, f.o.b. tank trucks.

Louisville: Demand slow; supply good; trend weak; 11¼¢ gal., tankcar lots, f.o.b. Gulf ports.

Seattle: Demand fair; trend easy; supply good; $21.50, f.o.b. Seattle, tank carlots or truck lots.

NIACIN

New York: Trend steady; $6 kilo, 10-kilo lots; $6.20 kilo, 5- and 2½-kilo lots; $6.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Minneapolis: Demand slow; supply adequate; trend steady; reground oatfeed $23, nominal; feeding rolled oats $79; feeding oatmeal $68.50; standard pulverized $46; crimped $59.

Seattle: Demand and supply fair; trend firm; $55, bulk, delivered, truck lots.

Boston: Demand steady; supply spotty; white pulverized, $56.50; reground oat feed, $25.50.

Ft. Worth: Demand slow; supply sufficient; 11% protein oat millfeed $40@41; reground $29.50@30, August.

Chicago: Demand draggy; trend easier; supply ample; carlots, reground oat feed, $16@19; No. 1 fine ground feeding oatmeal, $80; feeding rolled oats, $78@82.

Louisville: Demand slow; supply ample; trend easy; reground $27.30, rolled $86.80, feeding $78.80, pulverized $52.30, crimped $70.30.

Los Angeles: Demand fair; trend unchanged; supply adequate; pulverized, local production $61, sacked.

Portland: Demand good; trend unchanged; supply ample; rolled $63, ground $63, cleaned $65.

Cincinnati: Demand poor; trend steady; supply adequate; reground oats $28, pulverized white oats $51, rolled oats $81.

Philadelphia: Pulverized white oats demand slow; supply fair; $52.50; domestic demand slow; supply light; $32; Canadian oatfeed demand slow; supply light; trend unsettled; $29.50.

OYSTER SHELL

San Francisco: Demand fair; supply ample; local $15, eastern $26.

New Orleans: Demand and supply good; trend steady; $22@24.

Boston: Demand and supply steady; in paper $26.02.

Seattle: Demand and trend steady; supply good; eastern $36, delivered, carlots.

Cincinnati: Demand fair; trend steady; supply adequate; $24.45.

Portland: Demand good; supply ample; trend unchanged; western $34, eastern $39, granite grits $24, shell flour $28.

Los Angeles: Demand fair; trend unchanged; supply ample; $14.80, sacked.

Louisville: Demand and supply good; trend steady; in 80-lb. paper $23.45; in 50-lb. paper $23.70; in 25-lb. paper $25.95.

PEANUT OIL MEAL

Atlanta: Demand fair; trend steady; none available; $57 nominal, f.o.b. Georgia and Atlanta producing mills.

PEAT MOSS

Portland: Demand slow; supply ample; trend unchanged; $3.

Seattle: Demand and supply good; trend firm; $2.80 per bale delivered truck lots.

Boston: Demand and supply steady; $3.15 bale.

San Francisco: Demand and supply fair; $3.65 per bale.

Chicago: Demand fair; supply ample; trend steady; standard 7½ cu. ft. bales, $3.80.

Los Angeles: Demand slow; supply adequate; trend unchanged; Canadian 6.1 cu. ft. bales $3.75.

Philadelphia: Demand and supply fair; $3.90, f.o.b. pier.

POTASSIUM IODIDE, U.S.P.

Chittenango, N.Y.: Demand good; supply adequate; 90% KI stabilized with calcium stearate, 200 lb. in 100-lb. cartons $1.30; 100-lb. cartons $1.32; 25-lb. cartons $1.45; freight paid to destination.

Cincinnati: Demand good; trend steady; 90% KI in calcium stearate or carbonate mixtures: 250-lb. drums $1.35; 200 lb. in 100-lb. drums $1.35; 100-lb. drums $1.38; 25-lb. drums $1.41, f.o.b. Cincinnati.

POULTRY BY-PRODUCTS

Boston: Demand and supply steady; $88, f.o.b. shipping points.

Atlanta: Demand fair; trend steady; supply ample; $85.50, f.o.b. Georgia and Alabama producing mills.

Ft. Worth: Demand excellent; supply very limited; 55% protein $98, f.o.b. north Texas plants.

Los Angeles: Demand fair; trend weaker; supply adequate; $1.55 per unit of protein.

Salisbury, Md.: Demand good; supply limited; meal $98, f.o.b. bulk, sacked $4 more.

RIBOFLAVIN

New York: Trend steady; feed grade (in feed supplements) 4½¢ gm. in 3.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gm. in less than ton lots, in 3.36 to 16 gm./lb. mixtures; 3¢ in ton lots or more, freight prepaid or paid to destination.

RICE BY-PRODUCTS

Atlanta: Demand fair; trend weak; supply good; bran $40@41, delivered.

San Francisco: Demand good; supply ample; bran $45; polished $49.

Ft. Worth: Demand slow; offerings light; carlots, rice bran $33@34, f.o.b. south Texas rice mills; hulls $6.50, f.o.b. mills.

Los Angeles: Demand slow; trend steady; supply tighter; bran, California production high fat content $51 sacked.

SCREENINGS

Cincinnati: Demand fair; trend steady; supply adequate; $34.

Chicago: Demand fair; supply good; trend mixed; carlots, ground grain screenings, $29.75; Canadian refuse, $23.40.

Minneapolis: Supplies still very short; considerable buyers' resistance to high prices, but sellers still holding out; very little domestic screenings, no trading in flaxseed screenings; Canadian $21, Canadian heavy test $23, Canadian ground $28, lights $10@19, mediums $20@29, heavies $30@39 (all prices $2@4 higher than last week).

Buffalo: Demand good; trend higher; supply fair; ground, sacked, $34 New York, lake and rail; unground, bulk, $29 New York.

Ft. Worth: Demand fair; supply light; ground mixed grain $19.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Atlanta: $20.40@20.67.
Buffalo: $25.31@25.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.88@25.
Memphis: $22.20@22.47.
Minneapolis: $25.92@26.06.
Philadelphia: $34.32@34.95.
St. Louis: $24.14@24.27.

SORGHUMS

Ft. Worth: Demand fair for domestic, good for export; offerings increasing; carlots, bulk, No. 2 yellow milo $2.10@2.12, delivered Texas common points.

Los Angeles: Demand steady; trend weaker; supply adequate; milo $2.30 per cwt. bulk.

SOYBEAN OIL MEAL

Cincinnati: Demand poor; trend lower; supply adequate; $55 bulk, Decatur.

New Orleans: Demand slow; supply ample; trend steady; $69.50@70.

Boston: Demand spotty; supply plentiful; 44%, $52; 50%, $61.50; both bulk f.o.b. Decatur.

Seattle: Demand fair; trend firm; supply ample; $87 delivered carlots.

Wichita: Demand good; supply ample; 44%, $67.50; 50%, $75.50, f.o.b. Wichita.

Kansas City: Demand moderate, with some pressure to sell coming particularly from eastern mills. Production going at a good rate and most plants operating. 44% protein for Kansas City area, $54@54.50, bulk, Decatur; unrestricted shipment, $45.50@46.

Atlanta: Demand fair; trend weak; supply good; 44%, $70, delivered.

Omaha: Demand poor; trend easy; supply ample; 44%, $60.60 bulk, delivered Omaha.

Chicago: Call for bean meal suffered a still further drying-up during the week ending July 29, and as a result, prices were whittled down once more—and on an unrestricted basis, that commodity is off from $2@4 ton since July 22. Buying power seems to have dried up badly coincident with the receipt of the beneficial rains over the soybean belt and while there is no definite assurance as yet that the crop is "made," there was more of a feeling that the bull turn of earlier in the month can well be over. Buyers and users of soybean meal apparently have beeen impressed by a swing away from the pessimistic comment on soybeans themselves. One observer says it is not the moisture that is holding new crop soybean futures at their current levels, and notes that Illinois soybean production will come close to equalling last year's record 140 million bushels. Quotations: 44% protein, Decatur basis, per ton, carlots: Unrestricted, $55; eastern restricted, $52.50; 50% protein, unrestricted, $63, and eastern restricted, $60.50.

Minneapolis: Demand good; supply ample; trend weak; $51@51.50, bulk, Decatur, for shipment to Minneapolis.

Ogden: Supply normal; $84@89.

Ft. Worth: Demand fair; supply sufficient; carlots, southern origin 44%: August $69.60@70.60; 50% protein, August $81.30@82.80; truck 44% $72.00.

St. Louis: Demand slow; supply ample; trend lower; 44%, $63.

Portland: Demand moderate; supply ample; trend unchanged; $54.50, f.o.b. Decatur.

Los Angeles: Demand slow; trend weaker; supply increased; $78.90@79.40 bulk.

Louisville: Demand slow; supply normal; trend weak; $67.10, down 50¢ ton.

Philadelphia: Demand and supply fair;

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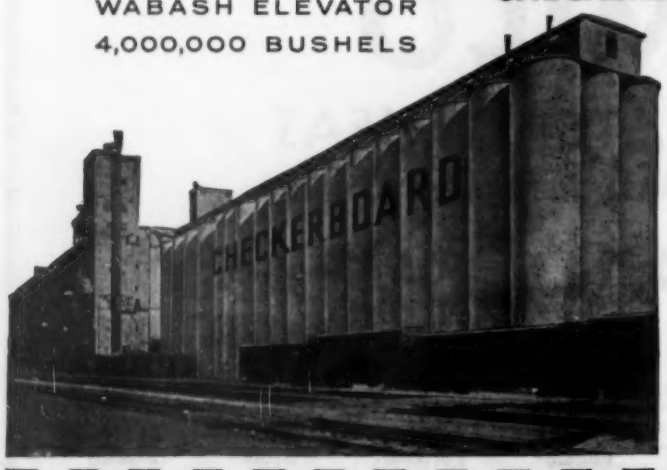

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trend unsettled; 44%, $54.50 bulk, Decatur.

San Francisco: Demand good; supply ample; $83.40.

TANKAGE

New Orleans: Demand good; supply light; trend steady; $97@102.

Wichita: Demand heavy; supply insufficient; 60%, $92.50, f.o.b. plant.

Chicago: Demand and supply fair; trend easier; carlots, 100 lb. bags, 60% protein, $92.50.

St. Paul: Demand fair; supply adequate; trend weak; $84@87.

Kansas City: Demand soft; trend easier, despite rather light supply; 60% digester tankage $80@$2.50 bulk, $2.50 more for sacked.

St. Louis: Demand slow; trend lower; supply ample; $86.

Omaha: Demand slow; trend easy; supply ample; $87.50.

Ft. Worth: Demand good; supply light; 60% digester, $88, Ft. Worth.

Cincinnati: Demand good; trend steady; supply fair; 60% digester, $86, Cincinnati.

Louisville: Demand dull; trend steady; supply good; $80@85.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Ft. Worth: Demand excellent; limited offerings; 5¾¢ lb., f.o.b. north Texas area.

VITAMIN E FEED SUPPLEMENT

Rochester, N.Y.: Demand and supply good; trend steady; 100-lb. drums $1.50 lb., 25-lb. drums $1.55 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

New York: Demand and supply good; trend steady; 100-lb. drums $1.50 lb., 25-lb. drums $1.55 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

Cincinnati: Demand good; trend steady; any quantity in 100-lb. drums $1.50; in 25-lb. drums $1.55. Freight allowed to destination.

WHEAT GERM MEAL

Minneapolis: Demand good; supply limited; trend firm; $58@60.

New Orleans: Demand and supply fair; trend steady; $60@62.

Buffalo: Demand and supply fair; trend steady; commercial grade, $56 sacked, f.o.b. Buffalo.

JEWELL

Continued from page 1)

integrated poultry organization in the world.

"The company will continue its own program of growing and processing chickens," J. D. Jewell, board chairman, said, "but we will expand our roaster program, and in addition, will purchase a portion of our requirements of eviscerated broiler-fryers from other government inspected dressing plants in the northern Georgia area. This will provide an additional market for processors, especially during those months of the year when sales of broiler-fryers are historically low, since the market for prepared foods does not suffer the seasonal fluctuations incident to the raw fresh-dressed product."

Mr. Jewell stated that the company's specialty items—pies, rolls, turnovers and patty shells—will continue to be manufactured at its subsidiary plant in Florence, Ala. He stated further, "We feel that the board's decision to intensify its efforts in the development of new products will put us in the strongest competitive position we have ever enjoyed."

Rhodia Increases Piperazine Prices

NEW YORK — Increases in the prices for four piperazine salts were announced this week by Rhodia, Inc., a major piperazine supplier to the feed industry. Effective Aug. 3, the new prices per pound, f.o.b. destination, 100 lb. drums, are as follows (lots of 1 drum, 2-9 drums and 10 or more drums, in order):

Piperazine adipate, $1.44, $1.29 and $1.27; piperazine dihydrochloride, $1.40, $1.25 and $1.23; piperazine citrate, $1.32, $1.17 and $1.15; and piperazine phosphate, $1.23, $1.08 and $1.06. Piperazine hexahydrate is unchanged at 89¢, 79¢ and 77¢, respectively.

Ernest V. Roush Dies

COLUMBUS, OHIO — Ernest V. Roush, a charter member of the Columbus Feed Club, and treasurer of the organization since 1950, died recently.

Mr. Roush was with the Ostrander (Ohio) Farmers Exchange Co.

AFMA

Continued from page 1)

first published in 1930. New editions of the plan were published in 1938 and again in 1948 to keep abreast of changing conditions in the production of livestock and poultry.

Publication and distribution of the plan concludes the first phase in AFMA's educational efforts. It has been preceded by months of intensive study and development. W. E. Glennon, AFMA president, noted that continuing emphasis would be focused on the plan during the coming year, particularly by the AFMA Sales Executives Council.

Mr. Riggs commented further: "Revolutionary changes in agricultural technology during recent years have necessitated modernizing the plan once again. The 1959 version consists of six principles, many of which are similar to those outlined in earlier editions.

"I wish to point out that the policy in regard to booking feed should be determined by each individual manufacturer. The plan certainly does not imply an AFMA recommendation for manufacturers to book feed. It is well-known that many companies book little or no feed for future delivery.

"However, in cases where feeds are booked for future delivery, we believe the best interests of the feeder, feed dealer and feed manufacturer will be advanced and promoted if the six principles of this plan are voluntarily followed in the transaction of such business," Mr. Riggs concluded.

The six principles in the 1959 National Feed Merchandising Plan are as follows:

1. Bookings of poultry, turkey and hog feeds to be limited to 60 days with minimum carrying charge of 50¢ per ton per month (or fraction thereof) to apply after 30 days.

2. Bookings of dairy feeds to be limited to 90 days with minimum carrying charge of 50¢ per ton per month (or fraction thereof) to apply after 60 days.

3. Seasonal bookings of beef cattle and sheep feeds to be limited to 180 days with minimum carrying charge of 50¢ per ton per month (or fraction thereof) to apply after 120 days.

4. No sale or booking to be made with price guaranteed against market decline.

5. No contract to be repriced, rewritten, resold or transferred.

6. If buyer defaults on contract, buyer shall with respect to the unshipped balance pay the market loss, if any.

AFMA called attention to the following provisions of the plan:

These principles do not apply to sales or bookings of feeds for pets, fur-bearing animals and game birds.

The term "booking" refers to a contractual agreement between buyer and seller for future delivery of a specified quantity of feed at a definite price. Supply contracts specifying "price time of shipment" are not included in the plan.

Under Item 3 (seasonal bookings) the booking period is the actual delivery time permissible under the contract.

It will be understood that principle No. 6 also applies when contract is terminated or cancelled by mutual consent of buyer and seller.

Gruendler Feed Milling Chief Engineer Dies

ST. LOUIS, MO.—Edgar Stimmel, chief engineer of the feed milling division, Gruendler Crusher & Pulverizer Co., died recently.

Mr. Stimmel was employed by the Union Iron Co., Decatur, Ill., before joining the Gruendler firm. He was a member of the Association of Operative Millers and was experienced in the designing of feed plants.

Chickens: Number Raised on Farms

State and division	1948-57 average	1955	1956	1957	1958	1959 1/	1959 as % of 1958
	Thousands	Thousands	Thousands	Thousands	Thousands	Thousands	Percent
Maine	6,464	7,220	5,993	6,233	6,732	6,597	98
N.H.	4,813	5,406	4,379	3,766	3,841	3,649	95
Vt.	1,916	2,245	1,976	1,581	1,502	1,352	90
Mass.	7,022	6,689	5,684	4,663	4,989	4,590	92
R.I.	823	804	675	580	615	584	95
Conn.	6,050	6,636	5,309	4,831	4,976	4,578	92
N.Y.	15,437	13,209	12,945	10,097	10,501	8,296	79
N.J.	13,388	12,404	12,900	10,578	10,684	8,547	80
Pa.	29,008	23,199	24,127	20,025	21,627	20,329	94
N.Atl.	84,923	77,812	73,990	62,354	65,467	58,522	89
Ohio	20,858	15,929	16,885	13,339	14,806	12,585	85
Ind.	23,194	19,250	20,212	15,563	16,341	14,543	89
Ill.	26,458	22,274	23,610	16,999	18,019	14,595	81
Mich.	15,704	13,207	13,339	10,004	10,704	8,456	79
Wis.	19,817	17,658	18,364	15,058	17,166	13,904	81
E.N.Cent.	106,030	88,318	92,410	70,963	77,036	64,083	83
Minn.	27,991	24,500	26,705	20,830	23,954	20,840	87
Iowa	41,023	34,601	36,331	30,155	32,869	28,596	87
Mo.	25,337	20,087	21,493	15,905	17,018	15,486	91
N.Dak.	6,358	5,903	6,257	5,569	6,015	5,414	90
S.Dak.	12,199	10,389	10,701	9,310	10,986	9,778	89
Nebr.	19,082	15,500	16,585	12,439	13,310	12,245	92
Kans.	18,342	14,602	16,208	12,156	13,372	11,366	85
W.N.Cent.	150,333	125,582	134,280	106,364	117,524	103,725	88
Del.	1,424	1,153	1,105	906	951	846	89
Md.	4,416	3,651	3,432	2,814	2,927	2,898	99
Va.	8,813	6,618	6,817	5,317	6,061	6,243	103
W.Va.	3,720	2,834	2,749	2,364	2,459	2,189	89
N.C.	17,412	14,967	16,015	15,535	17,088	16,575	97
S.C.	7,123	5,268	5,900	6,018	6,560	6,888	105
Ga.	12,649	11,167	13,065	13,980	16,217	17,514	108
Fla.	4,990	4,938	4,691	4,316	4,748	5,223	110
S.Atl.	60,548	50,606	53,774	51,250	57,011	58,376	102
Ky.	14,364	10,518	11,359	8,519	8,945	8,319	93
Tenn.	13,735	10,413	10,517	9,255	9,718	9,815	101
Ala.	10,138	7,216	7,793	7,403	8,958	9,585	107
Miss.	9,115	6,186	6,495	5,456	5,511	6,283	114
Ark.	8,501	5,396	5,666	4,419	5,966	6,324	106
La.	6,476	4,717	4,717	4,009	3,608	3,608	100
Okla.	10,768	7,065	7,913	5,935	6,238	5,546	89
Texas	23,491	15,709	18,537	14,088	16,060	15,257	95
S.Cent.	96,590	67,220	72,977	59,084	64,998	64,737	100
Mont.	3,262	3,108	2,984	2,745	2,712	2,412	87
Idaho	2,973	2,484	2,484	2,409	2,409	2,385	99
Wyo.	901	680	680	551	601	541	90
Colo.	4,033	2,998	3,148	2,298	2,252	2,049	91
N.Mex.	1,159	772	772	656	656	656	100
Ariz.	847	766	797	757	886	930	105
Utah	3,104	2,011	2,051	2,113	2,324	2,092	90
Nev.	222	164	159	154	162	130	80
Wash.	7,053	5,768	5,191	4,412	4,500	4,275	95
Oreg.	5,253	4,691	4,832	4,687	4,593	4,271	93
Calif.	27,604	28,888	28,021	25,779	28,615	31,476	110
West	56,410	52,330	51,119	46,561	49,770	51,217	103
U.S.	554,835	461,868	478,570	396,576	431,806	400,660	93

1/ Preliminary.

Key Milling Co. Names John McKee President

CLAY CENTER, KANSAS—John McKee was named president of the Key Milling Co. at a recent meeting of the board of directors. Paul Williams was named vice president and elected to the board.

Mr. McKee replaces his father, the late J. W. McKee, who had been president of the firm since its founding. John McKee has been with the feed firm since it was started, serving as vice president and on the board of directors.

HOG OUTLOOK

(Continued from page 1)

Glim, senior vocational instructor, Fresno (Cal.) State College, regardless of whether or not the producer could reduce his feed costs by mixing his own formula. The important factor is not cost per ton but the number of pounds of feed required to produce a pound of meat. The commercial feed company offers well-formulated feeds constantly being tested in laboratories and research farms, Mr. Glim said. He noted that progressive firms are making use of linear programming and the farmer can get quick delivery of his feed, and is bothered with no weevil, rodent, storage, machinery and other problems.

Feed and Service

Feed companies are interested only in providing feed and services to the farmer, Mr. Hoelle said. "We do not care to get into the problem of financing. That is a function of your banker."

Two hog raisers presented their experiences in raising and feeding swine, and other speakers discussed manners of financing, housing, veterinarian care and marketing of the animals.

"California could become a very strong factor in hog production in the U.S.," said Roy Sharp of the California Farm Bureau Marketing Assn., Visalia.

CHICKEN CROP

Continued from page 1)

eraged 27% below the prices received by farmers the previous year. May prices averaged 32%, and June's prices were 29% below those of the previous year.

Prices paid by poultrymen for feed during the first six months of 1959 were about the same as during the same period of 1958. These low egg prices were reflected in farmers' actual purchases of chicks and were mainly responsible for the 7% cut in the number raised.

The number of layers in flocks July 1 decreased by 1% from that of a year earlier. Total egg production January through June was up 5% from the same period last year. The laying flock Jan. 1, 1960, is expected to be about 2-3% smaller than a year earlier.

Commercial broiler production is not included in these estimates of chickens raised on farms.

LAMBS

Continued from page 1)

ing ewes one year old and older on farms and ranches on Jan. 1, 1959, in these states was 3% above 1958. The 3% increase in lamb crop reflects the increase in breeding flocks. The number of early lambs (dropped before March 15) in the western states was 3% more than a year earlier. Weather conditions were favorable for lambing in much of the western area.

The lamb crop in the 35 native sheep states (all states except 13 western states) this year is only slightly greater than 1958, but 15% above average. A 2% increase in the number of breeding ewes was almost offset by a two point decrease in lambing percentage and resulted in a slight increase in the number of lambs. In the 35 native sheep states, the 1959 lamb crop was larger than 1958 in 15 states, unchanged in five states, and smaller in 15 states.

PRODUCTION SCHOOL PROGRAM

(Continued from page 6)

ing, transportation, binning and feeding methods reveals that proper techniques can minimize the problem of fines.

ADDING HUNDREDS OF TONS TO DIE LIFE
R. L. Patterson, industrial research department, Procter & Gamble Co., Cincinnati, Ohio.
"Research Has Developed New Ways to Reduce Die Corrosion"—Studies show how metal plating and high alloy steel can be used to substantially reduce corrosion and extend die life. (Cathode-anode theory of die corrosion explained as possible causative factor.)

LABOR EFFICIENCY IN FORMULA FEED PRODUCTION
Dr. V. John Brensike, head, grain and feeds section, Agricultural Marketing Service, USDA, Washington, D.C.
"USDA Reports on Costs of Formula Feed Operations"—Studies reveal that production man-hours required to produce a ton of formula feed have decreased. Changes are taking place with more to come.

DOES BULK FEED HANDLING PAY?
Charles Zusi, Containers Laboratories, Chicago, Ill.
"Nationally Known Laboratory Asks Questions—Gets Answers"—Bag vs. bulk question carefully analyzed. Recommendations for handling pellets in various operations will be made.

GET TOUGHER PELLETS FROM YOUR DIES
Oak B. Smith, director of market research, Wenger Mixer Manufacturing Co., Kansas City, Mo.
"Original Research Shows Way to Increase Die Efficiency"—Report on effect of changed die speeds as it relates to pelleting capacity, percent of fines, and pellet toughness for various types of pellets and range cubes.

PELLETING PRODUCTION IS AFFECTED BY FORMULATION
Dr. Charles Lewis, nutritionist; William Schafenacker, sales manager; C. E. Swick, production manager, Kent Feeds, Muscatine, Iowa.
"Panel of Production-Wise Experts Reveals Secrets"—A nutritionist, a sales manager and a production manager discuss typical situations arising when a feed is formulated.

Thursday Evening

TECHNICAL ASPECTS OF RESEARCH PROJECTS
A. J. Bohl, Art Stegner, R. L. Patterson, Charles Zusi and Oak B. Smith.
"Students Can Question Research Results"—Concurrent technical sessions with speakers presenting research projects during the Thursday program.

Friday, Sept. 25

SPECIALIZED SESSIONS
Maxwell L. Cooley, general chairman, specialized sessions technical director, animal nutrition division, Hoffman-Taff, Inc., Springfield, Mo.
"A Feed Production Laboratory"—Six panels of experts to discuss production problems. Sessions run concurrently. Students may select four out of the six, each session lasts 1 hour and 25 minutes.

LIQUIDS HANDLING
Panel chairman, Silas R. Renaudette, Wirthmore Feeds, Inc., Waltham, Mass.

COOLING AND DRYING PELLETS
Panel chairman, Charles W. Johnson, Sprout, Waldron & Co., Minneapolis, Minn.

PREMIXING
Panel chairman, W. L. Brickson, Specifide, Inc., Indianapolis, Ind.

QUALITY CONTROL
Panel chairman, Eugene H. Spitzer, Murphy Products Co., Burlington, Wis.

HANDLING AND CONVEYING PELLETS
Panel chairman, Gordon McKinney, Honeggers' & Co., Fairbury, Ill.

GRINDING AND MIXING ROUGHAGES
Panel chairman, Dr. O. Burr Ross, department of animal science, University of Illinois, Urbana, Ill.

SMALL MILL SHORT COURSE

Saturday, Sept. 26

The program committee of the Feed Production School specially designed this course to meet the needs of the smaller mill operator. Problems confronting the producer of 50 to 100 tons of feed, including pellets, per day will be discussed by experienced speakers.

WELCOME
Fred Darragh, Jr., and Kenneth Winterscheidt, chairmen, 1959 Small Mill Short Course.

BUILDING A NEW EXPANDABLE SMALL MILL
PHYSICAL PLANT REQUIREMENTS
Russell Bent, engineer, Mill & Elevator Co., Des Moines, Iowa.
FINANCIAL REQUIREMENTS
C. I. Moyer, regional director, Small Business Administration, Kansas City, Mo.

COST OF INSTALLING AND OPERATING A PELLET MILL
STEAM REQUIREMENTS
William F. Harder, president, Nebraska Boiler Co., Lincoln, Neb.
COST OF PELLETING RESEARCH REPORT
A. J. Bohl, executive engineer, Wolf Management Engineering Co., Chicago, Ill.
COOLING INSTALLATION AND OPERATION
Burnell Sellers, International Milling Co., Des Moines, Iowa.
FACTORS IN CONDITIONING MASH
Oak B. Smith, director of market research, Wenger Mixer Manufacturing Co., Kansas City, Mo.
ELEVATING AND CONVEYING PELLETS
Jim McKillip, Jr., sales manager, Universal Hoist & Manufacturing Co., Cedar Falls, Iowa.
BIN DESIGN AND CAPACITIES
Art Stegner, product manager, farm equipment division, Butler Manufacturing Co., Kansas City, Mo.

ENGINEERING APPRAISAL OF HAY PELLETING
John B. Dobie, agricultural engineer, University of California, Davis, Cal.

ROUGHAGE PELLETING AT THE LOCAL MILL
H. C. Prescott, general manager, Aero Bulk Manufacturing Co., Kansas City, Mo.

COSTS AND ECONOMY OF BUILDING FORMULAS
HOW TO EFFICIENTLY USE CONCENTRATES
George Patrias, director of nutrition and research, Hubbard Milling Co., Mankato, Minn.
HOW TO EFFECTIVELY USE PREPARED VITAMIN PREMIXES
W. L. Brickson, Specifide, Inc., Indianapolis, Ind.

A PRACTICAL QUALITY AND INVENTORY CONTROL PROGRAM
Eldon Roddis, Roddis Feed Co., Rochester, Minn.

A GOOD PREVENTIVE MAINTENANCE PROGRAM FOR THE SMALL MILL
Kenneth Winterscheidt, vice president, Winterscheidt Milling Co., Seneca, Kansas.

OPERATING A PORTABLE MILL
Robert Sellar, Sellar Feed Co., Geneva, Neb.

GFDNA Bulletin Comments on Tax Decision by Court

WASHINGTON—A recent issue of the National News Letter of the Grain & Feed Dealers National Assn., Washington, contains this comment: "The grain shipper, grain merchandiser or feed manufacturer who sells his product or commodity in states other than his own has had his exposure to state income taxes increased greatly because of a Feb. 24 Supreme Court decision involving Minnesota and Georgia tax cases."

The bulletin states that before the Supreme Court decision "it had been generally assumed that if a firm conducted no local business in a state, it was not subject to state income taxes." Further comment quoted from the bulletin: "It had also been generally accepted by the courts that if a business had no salesmen, warehouse or factory in a non-resident state, it was engaged solely in interstate commerce and therefore protected from state income taxation.

"The specific holding of the Supreme Court is that a state now has the jurisdiction to levy an income tax on a corporation organized under the laws of another state when the only business activity in the state is soliciting orders or shipping goods to customers in a state.

"Twenty-nine states now have statutory authority to tax interstate commerce. Ten states have the authority to make the tax retroactive with the Wisconsin statute retroactive to 1911 and Minnesota to 1933. Numerous states are now applying or plan to apply the tax for the first time. Cities that collect income tax can also tax firms that ship goods into the city for sale even though the shipper has no office or warehouse in the city.

"From what the staff of this national association has learned," says the GFDNA bulletin, "this tax dilemma of interstate business would apply to both incorporated and unincorporated firms even though the Supreme Court rulings were on incorporated businesses. Small country grain shippers or grain merchandisers who ship grain for sale over state lines to states or cities with statutory authority to tax interstate business, would be especially vulnerable because of the burden of conforming to tax regulations in each state.

"In order to save firms from tax accounting and perhaps tax money, legislation has been introduced by several congressmen to limit the power of the states to impose income taxes on income derived exclusively from the conduct of interstate commerce."

Millfeed Buyer Retires

MINNEAPOLIS—After serving 25 years as a millfeed buyer and broker, F. B. Parsons, Minneapolis, has announced that he is retiring. He has served eastern Milwaukee and Chicago mixers and jobbers during his career.

Mr. Parsons plans to spend winters in Florida and summers in Cape Cod during his retirement.

FIRM RENOVATED

LAWRENCEVILLE, GA.—Facilities of the Lawrenceville Poultry Co., successor to Allied Poultry & Egg Co., have been renovated and processing is under way.

Program Outlined For Kentucky Feed Conference

LEXINGTON, KY.—The program for the Kentucky Feed Conference has been announced by Jack Weber, secretary-treasurer of the Kentucky Feed & Grain Assn. The conference will be held Aug. 17-18 at the Brown Hotel in Louisville, Ky.

Addresses scheduled for the morning of the first day include: "The Care and Feeding of Business Relations," by Henry Ward, director of the area development division, Louisville Chamber of Commerce; "The Food Additives Amendment," by Samuel Alfend, chief of the Cincinnati district, Food and Drug Administration, and "The Dairy Business as Related to Integration," by Dr. D. R. Jacobson, University of Kentucky.

In the afternoon Oakley M. Ray, director of market research for the American Feed Manufacturers Assn., will give an address entitled "Where Are We—What Next?" Dr. C. E. Barnhart, University of Kentucky, will talk on "Producing Contract Hogs in Kentucky and the South."

Also scheduled for the afternoon program is a panel discussion on "Feed Additives—Present and Future in Kentucky." Participating in the discussion will be Mr. Alfend; Dr. Jacobson; Dr. Barnhart; Dr. N. W. Bradley, department of animal husbandry at the University of Kentucky; Prof. J. J. Begin, poultry husbandry department, University of Kentucky, and William A. Mitchell, assistant director of research and service, Early & Daniel Co.

On the program the morning of Aug. 18 will be: "Impact of Integration on Livestock and Feed Industry," by S. Q. Allen, agricultural economist at the University of Kentucky; "The Growing Surplus Problem," by James W. Browning, Commodity Stabilization Service, and "Poultry Contract Operations in Southern Kentucky," by S. A. Callahan, marketing specialist at the University of Kentucky. A closing address will be presented by J. E. Stanford, Kentucky Farm Bureau Federation.

The remainder of the day's program will be devoted to a directors luncheon meeting, a ladies luncheon and card party, sports and entertainment, and a 7 p.m. banquet in the Louisville Room.

Registration the first day will be from 9 a.m. to 10:30 a.m. Mr. Weber noted that no registration fee is required for wives of members and guests, and that the association and the University of Kentucky cordially invite the ladies to attend all functions of the meeting.

CHICAGO SEAWAY CLEARANCES

CHICAGO—More than 2 million bushels of various kinds of grains cleared the Port of Chicago during the week ending July 23. The total included: wheat, 755,000 bu.; corn, 782,000 bu.; oats, 186,000 bu., and soybeans, 348,000 bu. Among the ports to which this grain was headed were: Liverpool and Hull, England; Toronto, Canada; Marseilles, France; Hamburg, Germany, and Antwerp, Holland.

MARKETS

(Continued from page 2)

than continuing their more or less recent decline, has been encouraging. Everyone knows that there is going to be a marked step-up in hog production, coincident with the removal of all acreage restrictions on corn for the 1959 crop, but it still remains to be seen whether this big increase in the hog population is going to result in any broader demand for commercial mixed hog feeds when corn is so very plentiful.

The situations in both cattle and poultry feeds have shown but little change from the week just preceding. Arrival of timely rains has helped the pasturage in many areas.

Conditions in the egg and broiler markets have not shown any material betterment, but, at the same time, neither have they worsened significantly.

Pacific Northwest

Moderate price declines for animal protein feeds, whole oats and linseed meal just about offset wheat millfeed and whole barley quotation gains during the week's Pacific Northwest feedstuffs market trading.

Portland and Seattle area feeders and mixers are still making most purchases on the basis of nearby needs and were not inclined to anticipate future needs to any extent.

Formula feed trading throughout the region was considered good with the general line of poultry mashes moving at a volume rate. Some mixers reported a slightly larger movement of turkey feeds.

Cooler weather prevailed throughout the region during the trading period following five days of extremely hot weather. The cooler weather halted western Oregon and Washington pasture deterioration, but it may be only temporary unless rain showers arrive soon.

South Central

Following a slowdown in demand last week, probably the result of drouth conditions in the area, business shows a fair recovery this week. Although there are some exceptions, running time generally is back to a full five-day level.

Manufacturers say that hog feed demand is entering an adjustment period. Early farrowed spring pigs are moving to market in increasing numbers causing some loss of feed sales. Offsetting this are heavy summer farrowings, so it may be some time before there is much of a reduction in feeding units.

Broiler feeds sales are reported as up a little, but this item makes up only a minor part of mill operations. As far as total production is concerned, turkey feeds fall into this same class. However, when sales of both increase at the same time, as they are doing now, the total gives a welcome lift to mill operations.

After a three week period of only minor changes, price lists are due for a downward revision this week to reflect the substantial reductions in protein meal costs.

Ohio Valley

Although sales of formula feeds were continuing at a steady pace this week in the Ohio Valley, the usual late summer upturn in tonnages has as yet failed to develop, and area manufacturers are now anticipating that business will continue at about its present level until colder weather arrives.

The principal reason for this situation is said to be the marked decline in turkey settings earlier this summer, resulting in an expected drop of many thousands of birds during the upcoming fattening and marketing seasons.

A similar situation is prevailing with respect to baby chicks, and these factors are combining to deprive the formula feed market of the substantial tonnages that had been booked during late summer in recent years.

The general uncertainty over future prospects for the poultry industry continues to be reflected in quotations at area wholesale markets. After holding fairly steady last week, prices for several grades of eggs eased off 1@2¢ doz. this week. With supplies of poultry somewhat tighter than normal, prices for both dressed and live birds held steady.

The threatened drouth which had reached serious proportions last week, was eased somewhat this midweek, when more than an inch of rainfall was reported throughout most of the Valley area. Much more rain is needed, however, to restore pasturage to a semblance of its early summer feeding potential.

INDEX OF ADVERTISERS

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Abbott Laboratories .....
Agricon, Inc. 50
Agri-Tech, Inc. 29, 52, 62, 74
Albumina Supply Co. .....
Allied Chemical Corporation, Nitrogen Division 16
Allied Mills .....
Amburgo Co., Inc. .....
American Cyanamid Co. .. 34, 35
American Dehydrators Assn...
American. Elev. & Grain Div...
American Iron Works .....
American Mill Serv. Co. ...
American Poultry & Hatchery Fed. .....
American Scientific Lab. ....
Anderson, V. D., Co. 88
Andrews Machine .....
Arbor Acres Farm 44
Armour & Co. .....
Armstrong, O. B., & Son ..
Associated Feed Products ... 37
Aubrey Feed Mills .....

Baker, H. J., & Bro. .....
Baker, J. T., Chem. Co. ....
Barnard & Leas Mfg. Co., Inc. 44
Baroid Chemicals, Inc., Subsidiary of National Lead Co.
Bartlett, C. O., & Snow Co..
Bates Grain Co. .....
Bauer Bros. Co. .....
Baughman Mfg. Co., Inc. ....
Baxter, A. E., Engineering Co.
Beardstown Mills Co. .....
Bemis Bro. Bag Co. .....
Berg, Paul .....
Berkshire Chem. .....
Bigelow Sales Co. .....
Bingman Lab., Inc. .....
Black, Sivalls & Bryson, Inc. . 74
Blatchford Calf Meal Co. 23
Blomfield-Swanson .....
Borden Company 60
Bowman Feed Prod., Inc. ... 21
Bremco Alfalfa .....
Brewers Yeast Council, Inc....
Brower Manufacturing Co. ... 82
Burlap Council 20, 21
Burrell, James H., & Co., Inc.
Burrows Equipment Co. 91
Butler Chemical Co. 51
Butler Mfg. Co. 39, 62, 63

Calcium Carbonate Co. 36
Calhoun Beach Hotel .....
California Pellet Mill Co. ... 52
Cargill, Inc. 44
Cardinal Scale Co. .....
Cargill, Inc. .....
Champion Portable Mill Co. . 10
Chantland Mfg. Co. .....
Chase Bag Co. 15
Checkerboard Grain Co. 96
Chippewa Plastics, Inc. ....
Citrus Processors Assn. 78
Clinton Corn Processing Co. . 80
Clofine, Herbert K. .....
Colby Milling, Inc. .....
Collier Livestock-Feeder Co. . 71
Columbia Phosphate Co. 39
Columbia Quarry Co. 54
Columbian Steel Tank Co. ..
Commercial Solvents Corp. .. 9
Consolidated Blenders, Inc. . 95
Continental Grain Co. 95
Corn Products Sales Co. ....
Coronet Phosphate Co. 89
Czarnikow Rionda 73

D. C. A. & Co. .....
Dabney-Hoover Supply Co., Inc. .....
Daffin Mfg. Co. .....
Dannen Mills, Inc. 43
Darling & Co. .....
Davies, William E., Co. 85
Davis, H. C., Sons' Mfg. Co.
Dawe's Laboratories, Inc. ... 53
Day Company, The .....
Daycom, Inc. 47
Delaware Poultry Laboratories
Devold, Peder, Oil Co. .....
Diamond Alkali Co. .....
Diamond V Mills, Inc. .....
Distillation Products Industries 10, 75
Distillers Feed Research Council .....
Doane Agricultural Service ..

Doane Feed Products Co. ...
Dodgen Indus. .....
Dorn & Mitchell Laboratories
Dorsey Trailers .....
Doty Laboratories 82
Douglas Chemical 66, 67
Dow Chemical .....
Duplex Mill & Mfg. Co. 73
Du Pont de Nemours & Co., Inc., E. I. 48, 49

Early & Daniel Co. .....
Eastman Chemical Prod. Inc.
Ehrsam, J. B., & Sons Mfg. Co., The 14
Elba Corp. of America .....
Eriez Mfg. Co. 49
Eschenheimer, Rudy, Co. 68
Ewing, Ray, Co. 72

Farmers Friend Mineral Co. . 91
Ferguson Fumigants 59
Ferrell, A. T., & Co. .....
Fischbein, Dave .....
Flavor Corp. of America ... 92
Food Mach. & Chem. Corp...
Forster Mfg. Co. 87
Fox Co. 47
Fruen Milling Co. .....
Fuller Co. .....

Gerber Sheet Metal .....
Gooch Feed Mills 45
Gorton-Pew Fisheries 96
Grace Chemical Co. .....
Grain Processing Corp. 57
Gruendler Crusher & Pulverizer Co. 60
Gump, B. F., Co. .....

Hand, Peter, Foundation 14
Harris-Crane, Inc. .....
Harris Laboratories, Inc. ....
Harshaw Chemical Co. .....
Hayes and Stolz .....
Heil Co., The .....
Helm Mfg. Co. 48
Henke Mfg. Co. 32
Hess & Clark, Inc. .....
Heterochemical Corp. 22
Highway Equipment Co. 80
Hilltop Laboratories .....
Hoffman-Taff, Inc. 39
Hogenson Const. Co. 42
Hogg, N. D., Ltd. .....
Holt Products Co. 88
Honeggers' & Co. 12, 13
Honeymead Products Co. ....
Hot Spot Detector, Inc. .. 32, 33
Howe Scale Co. .....
Howes, S., Co., Inc. 69
Hubbard Milling Co. .....
Hubbell, Charles H. .....
Hudson Pulp & Paper Corp...
Hygeno Litter 68

Ibberson, T. E., Co. .....
Illinois Soy Products Co. ....
International Distr. Corp.....
International Minerals & Chemical Corp. 46
International Paper Co. .....
International Salt Co., Inc...
Iowa Limestone Co. .....

Jackson, Gilbert, Co., Inc. .. 39
Jacobson Machine Works ... 11
Jersee Co. 79

Kansas Soya Prod. Co., Inc. . 24
Kees & Company 88
Kellogg, Spencer, & Sons, Inc
Kem Mfg. Co. .....
Kent Feeds .....
Kent, Percy, Bag Co., Inc...
Key Alfalfa Dehydrators ....
Keystone Trailer Co. 86
Kimber Farms .....
Kindstrom-Schmoll Co. .....
Koelsch, Charles J., Grain Co.
Koppers Co., Inc. 56
Kraft Bag Corp. .....
Kraft Foods Co. 25-28

LaBudde Feed & Grain Co. . 87
Lakeland Engineering .....
Land O'Lakes Creameries, Inc.
Landers Mill Mfg. Co. .....
Lauhoff Grain Co. .....
Leach Mfg. Co. .....
LeGear, Dr., Inc. 84
Lennox Industries .....
Levens Mfg. Co. .....
Lilly, Eli, & Co. 61
Limestone Products Corp. of America 20
Loncala Phosphate Co. 65
Longhorn Eng. Co. .....

McCabe Grain Co., Ltd. 82
Maney Bros. Mill & Elev. Co. 96
Mann, W. P., Sales Co. 80
Marine & Animal By-Products Corp. 95
Martin, Theo. W., & Son ...
Master-Bilt Refrigeration Mfg. Co. .....
Mathews Co. 91
Mayo Shell Corp. 72
Merck & Co. 5, 58
Meredith Pub. Co. .....
Mid-Continent Grain Co. 65
Mid-States Construction Co...
Midwest Alfalfa 60
Midwest Dried Milk Co. ....
Milbrew Co. .....
Miller, Mel, & Co., Inc. 52
Miller Publishing Co., The..
Minneapolis Sewing Mach. Co.
Minnesota Linseed Oil Co. ... 29
Minnesota Specialty Co., Inc.
Monsanto Chemical Co. .....
Mooers Mfg. Co. .....
Moore Dry Dock Co. .....
Morton Salt Co. 83
Murphy Products Co. .....
Myers-Sherman Co. .....

Nagel, Herman, Co. 39
Natl. Alfalfa Dehydrating & Mlg. Co. 100
National Distillers Prod. Co...
National Molasses Co. .....
National Renderers Assn. 37
Nellis Feed Co. 47
New Century Co., The .....
New England By-Prod. Corp. . 96
Nichols, Incorporated .....
Nootbaar, H. V., & Co. .....
Nopco Chemical Co. 50
North American Trading & Import Co. 64
North Carolina Granite Corp.
Nor-Vell, Inc. .....
Nutrena Mills, Inc. 44

Oakes Mfg. Co. .....
Olavarria & Co. .....
Olin Mathieson .....
Oyster Shell Corp. .....
Oyster Shell Prod. Co. 68

Panogen Co. 76
Paper-Calmenson & Co. 81
Park, Philip R., Inc. 78
Parkersburg Rig & Reel Co...
Parks, J. P., Co. .....
Parrish & Heimbecker .....
Parrish, N. K. 59
Parton Processing Co. 91
Pay Way Feeds 37
Peavey, F. H., & Co. 72
Pearless Equip. Co., Inc. 88
Penick, S. B., & Co. .....
Permaweld Eng. Corp. .....
Peterson Breeding Farms ...
Pfizer, Chas., & Co. 17-19
Phelps Dodge Refining Corp..
Pilch's Poultry Breeding Farms 87
Pillsbury Co. .....
Pittsburgh Plate Glass Co. .. 73
Plass, Joe N., Co. .....
Prater Pulverizer Co. 84
Pratt Labs., Inc. .....
Productive Acres Mfg. Co. .. 31
Publicker Industries, Inc. ....

Quaker Oats Co. .....

Ralston Purina Co. .....
Rapids Machinery Co. 76
Raymond Bag Corp. .....
Red River Alfalfa Co. .....
Reliance Feed Co. 82
Richardson Scale Co. .....
Richardson, James, & Sons ..
Riley Feed Co. 63
Rion Crush Stone Corp. 24
River Rest Turkey Sales, Inc.
Roskamp Huller Co. .....
Rosner-Hixson Laboratories ..
Ross Machine & Mill Supply..
Ross Mfg. Co. .....
Ryde & Co. .....

S. & H. Lab. .....
St. Regis Paper Co. .....
Salsbury's, Dr., Labs. 40, 41
Scanlan, Ivan, & Co. .....
Schenley Distillers, Inc. ....
Schipke, Henry 79
Schutte Pulverizer Co., Inc...
Screw Conveyor Corp. 80
Seagram, Joseph E., & Sons, Inc. .....
Seco, Inc. .....
Sedberry, J. B. .....
Seedburo Equipment Co. 37
Shenzer Mfg. 79
Shelby Mfg. .....
Shellbuilder Co. 48
Sievert, C. W. .....
Simonsen Mfg. Co. 47
Small, The W. J., Co. 96
Smith, A. O. .....
Smith, Edward E., & Co. ...
Sohio Chemical Co. .....
Soluble Nutrients, Inc. .....
Southwest Mill Supply Co. .. 91
Specifide, Inc. .....
Spencer Kellogg & Sons, Inc.
Sprout, Waldron & Co., Inc. 22, 23
Squibb, E. R. 77
Stabilized Vitamins .....
Staley, A. E., Mfg. Co. .....
Standard Brands, Inc. .. 42, 63, 91
Stearns Magnetic Products .. 84
Sterwin Chemicals Inc. .....
Stone Mountain Grit Co. ...
Strong-Scott Mfg. Co. 71
Successful Farming .....
Sudenga Industries .....
Sunset Feed & Grain Co. .....
Superior Feed Co. 49
Sutorbilt Corp. .....
Swanson, Carroll, Sales Co...
Sweet Mfg. .....
Syntha Lab. 63

T. D. F. Company .....
Tekamine Laboratory .....
Taste Engineering 7
Texas Mill Equipment Co. 44
Thayer Scale Corp. .....
Thoro-Speed Corp. .....
Ti-Co Industries .....
Tobias Enterprises 16
Toledo Scale .....
Toxite Laboratories .....
Trantetogen-Werk .....
Twin Supply Service, The ...

Ultra-Life Laboratories, Inc. . 71
Union Bag-Camp Paper Corp.
Union Special Machine Co. . 86
U. S. Industrial Chem. Co. ..
Universal Hoist Co. .....
Upjohn Company, The .....

Van Dusen Harrington Co. ... 72
Vantress, Chas., Farms, Inc...
Vineland Poultry Lab. 91
Vitamins, Inc. 56
Vit-A-Way, Inc. .....
Vitron Corp. .....
Vy Lactos Laboratories, Inc. . 55

W-W Grinder Corporation .. 24
Wallace & Tiernan Inc. ....
Warren-Douglas Chem. Co. . 65
Weighing & Control Components, Inc. .....
Wells, Ralph, & Co. 33
Wenger Mixer Mfg. Co. 29
Wertz Feed Co. 79
Western Condensing Co. 65
Western Yeast Co. .....
West Virginia Pulp & Paper Co. .....
White Laboratories, Inc. ....
White Shell Corp. .....
Whitmoyer Laboratories, Inc. 81
Wilhoit Laboratory 37
Wilson & Co. 72
Wilson, R. S., Co. 87
Winona Attrition Mill Co. ...
Wirthmore Feeds .....
Wisconsin Alumni Research Foundation 42, 43
Woodward & Dickerson, Inc..
Wyatt Mfg. .....
Wyeth Lab. 88

Young, John F., Co. .....

LOUISVILLE FIRE

LOUISVILLE, KY.—Some 70 firemen manning 11 pieces of fire fighting equipment extinguished a blaze recently in the attic of Buhner Feed & Fertilizer Co., Louisville. Wood framework burned and parts of a galvanized roof buckled, but nothing was stored in the area of the blaze.

Feed Research Reports To Be Presented at Arkansas Conference

FAYETTEVILLE, ARK. — Latest research reports on pelleting feed, use of amino acids and processing soybeans for feed will be highlighted at the ninth annual Arkansas Formula Feed Conference.

The conference is planned for Sept. 17-18 at the University of Arkansas Agricultural Experiment Station, according to Dr. E. M. Crally, director of the station.

Registration will be Sept. 17 in the animal science building on the university campus. The program follows at 10 a.m., and will continue through Sept. 18. Dr. E. L. Stephenson, animal nutritionist, is in charge of arrangements.

Researchers with the Arkansas station and feed industry personnel throughout the nation will discuss subjects ranging from the value of feed additives to suggested feeding programs and disease control through proper nutrition.

The conference is open to anyone interested in feed formulation, Dr Stephenson stated.

North Carolina Feed Manufacturers To Meet Aug. 7-8

MYRTLE BEACH, S.C.—The North Carolina Feed Manufacturers Assn. is planning to hold its 22nd annual summer convention Aug. 7-8, at the Ocean Forest Hotel, Myrtle Beach.

Scheduled for Aug. 7 is a discussion of "Poultry and Livestock Credit from a Banker's Viewpoint," by Henry M. Simons, Jr., Wachovia Bank & Trust Co., Charlotte, N.C. "Building Better Competitor Relations Through Public Relations" will be discussed by A. L. Bechtold, House of Lance, Charlotte.

On the agenda Aug. 8 are "Transitions in Agricultural Market," by Oakley Ray, American Feed Manufacturers Assn., Inc., Chicago, and "Positive Thinking in the Sales Process," by Dr. Emol Fails, North Carolina State College, Raleigh.

Entertainment for the ladies includes a bridge party Aug. 7 and a trip to the Brookgreen Gardens.

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